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WILLIAM BROWN

ERNEST JONES
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THE NEURAL SUB-STRATA OF REFLECTIVE THOUGHT

AN OUTLINED INTEGRATION OF THE PSYCHOLOGICAL
AND NEURAL ELEMENTS

By GEORGE G. CAMPION¹.

ANY attempt to unravel the workings of the neural sub-strata of reflective thought involves the presupposition that we possess some coherent view of the phenomena presented to us by reflective thought itself, and also that this view, whatever it may be, is one which is congruous with the workings of the neural processes with which it is proposed to try and establish for it a definite relationship; and further, any coherent view of the nature of reflective thought involves the whole question of epistemology and lies within the ambit of metaphysics.

The psycho-neural problem has thus a twofold aspect, the metaphysical and the neural, and to attempt any solution of the problem from one side only would be something like trying to explain the normal ontogenetic development of any living being by the study of structure or function alone apart from their reactions on one another. Huxley said forty-six years ago that the psycho-neural problem was "the metaphysical problem of problems²." Wm. James more than thirty years ago stated that its solution when it came would come in terms of metaphysics³ and Sir Charles Sherrington said in his Address to the British Association three years ago that "it is to the psychologist that we must turn to learn in full the contribution made to the integration of the animal individual by mind⁴," and that "the how of the mind's connection with its bodily place seems still utterly enigma⁵."

¹ This paper was written under the belief that it was to be a joint contribution with Professor Stopford, with whom the neurological part of the argument was slowly matured over a period of many months, but on its completion Professor Stopford thought that his contribution was insufficient to justify his name appearing as a joint author and the writer felt reluctantly obliged to acquiesce in its withdrawal. He desires to express his appreciation of the inexpressible value to him of the help thus given and his sincerest thanks for it. The paper has been left in its original form and in its general tenour expresses the views of both.

² *On Sensation and Unity of Structure of the Sensiferous Organs.*

³ *Text Book of Psychology*, p. 464.

⁴ *Presidential Address British Association*, 1922, p. 12.

⁵ *Ibid.* p. 15.

Psychology when James wrote of it was supposed to deal with 'states of consciousness,' which seems to connect it definitely with metaphysics. In its later developments, as experimental psychology and psycho-physics it has become as inseparably connected with neurology, and however we may define it as a science *per se*, we may, for the purpose of the psycho-neural problem, regard it as a nexus between metaphysics on the one side and neurology on the other and as partaking in some degree of each. But in such a region of our knowledge—a region which is so largely inchoate and nebulous—words are as Huxley once called them only "noise and smoke" and may be left to the contentions of logomachists. It is only by an integration or synthesis of these diverse but complementary categories of knowledge and thought that a solution of the problem can be arrived at.

What we call man's knowledge may be said to consist of multitudinous mental symbols in ever-changing relations with one another—symbols which may be weighted with different kinds of what we usually call imagery—it may be visual, auditory, audito-motor, tactile or kinaesthetic, and which in the absence of any such characteristics are usually called 'abstract.' To these multitudinous symbols and their ever-changing inter-relations man has in the long course of his phylogenetic history affixed more or less empirically an equally multitudinous number of verbal symbols which we call 'names¹,' and it has through the ages been one of the persistent functions of logic to induce cultivated man to abandon the primitive and youthful practice of attaching indiscriminately either a number of different names to the same mental symbol or a number of different mental symbols to the same name. Even the philosophers have not always complied with this behest of the logicians and we find that these mental symbols, when regarded collectively, have in the past been variously denoted by the terms 'ideas,' 'concepts,' 'presentations,' 'representations,' 'intuitions,' 'notions,' 'images,' etc. After Hume's death, and for the most part as the result of his writings, the English tradition more or less crystallized into the doctrine that the human mind was concerned with forming discrete 'ideas' and making them cohere in accordance with certain laws of 'association.' 'The association of ideas' was held to be the essential mental function. James' *Principles of Psychology* dealt this doctrine a heavy blow, and Bradley is held by some to have demolished it, but we imagine that Bradley himself might have been more inclined to regard the doctrine as a half-truth, which, like every other half-truth, is ever

¹ These 'names' are subject to the same processes of error as the symbols which they denote, whether in their growth, structure or interpretation.

falling deeper and deeper into the pit of error the more it is regarded as a whole truth. James' *Principles* pointed to the primary continuity of mental life and showed that what first required explanation was not the method of effecting connections or 'associations' but the growth of distinctions, both in "the big, blooming, buzzing confusion" of the immediate perceptual flux and also in the continuity of the trains of thought which are unceasingly passing through what we colloquially call our 'minds.'

We propose to follow the tradition of Wm. James in using for these mental symbols generally, whatever type of imagery be connected with them or whether they be entirely abstract, the term 'Concepts.' This term concept, which goes back to Plato, has long denoted in philosophical discourse a mental entity having in philosophic parlance the characteristics of concreteness, universality and invariability. Many years before his death James saw that the first step towards a synthesis of the complementary but diverse aspects of the psycho-neural problem lay in finding something in the nature of a single constituent element of our cognitive dispositions. "We seem," he wrote (1890), "if we are to have an elementary psycho-physic law at all thrust right back on something like the mental-atom theory since the molecular fact being an element of the brain would seem naturally to correspond not to total thoughts but to elements of thought¹." At the end of his life James attempted to find such a mental atom or constituent element of all our cognitions in the concept but he was hampered in this quest by the traditional view of the concept which regarded it as a static rigid entity which never varied. "A concept never varies²," he said in one of the chapters in his posthumously published volume on *Problems of Philosophy*. In this brief statement he was voicing the traditional philosophic view.

Bergson saw that any attempt to explain thought by means of rigid and unchanging elements was hopeless, and in his *Introduction to Metaphysics* postulated a view of the concept or mental symbol as a supple, mobile, almost fluid representation always ready to mould itself on the fleeting forms of intuition³. This view of Bergson has recently been

¹ *Text Book of Psychology*, p. 464.

² *Some Problems of Philosophy*, p. 53.

³ "Certainly, concepts are necessary to metaphysics for all the other sciences work as a rule with concepts, and metaphysics cannot dispense with the other sciences. But it is only truly itself when it goes beyond the concept, or at least when it frees itself from rigid and ready-made concepts in order to create a kind very different from those which we habitually use; I mean supple, mobile and almost fluid representations, always ready to mould themselves on the fleeting forms of intuition." *An Introduction to Metaphysics*, by Henri Bergson; translation by T. E. Hulme, p. 18.

elaborated by one of us (G. G. C.) with the aid of Mr Santayana and he shows by a number of concrete examples¹ that a concept when once formed grows in the course of the ontogenetic life process in a somewhat similar fashion to the different organs of the body by a growth in mass or bulk accompanied by progressive differentiation of structure. This view of the concept satisfies the requirements of James and Bergson and provides us with a mental element subject to continual modification by means of the new experience which is being progressively acquired through sense-perception—an element of which all our cognitions may be held to be gradually built up in the course of the ontogenetic life process. We adopt this term 'concept' in the sense and with the connotations here noted as the term by which we denote the symbol or mental atom of which James thirty-five years ago indicated the need and we proceed to enquire what this mental element of our various and multitudinous cognitions has as its correlate in the neural elements and processes of the brain.

During the twenty years before his death the late Richard Semon of Vienna in laborious biological studies of the abiding effects of transient stimuli on irritable living tissues—studies which he pursued through a wide range of biological types culminating in Man—gave to the abiding effects of such stimuli the term 'engram.' In the last of his works, *Bewusstseinsvorgang und Gehirnprozess*, published in 1920, he considers more intimately the engram in relation to the psycho-neural problem, and in this connection he means by it a physiological pattern established by successive stimuli and resulting in a condition in which there have gradually been produced, by recurrent stimuli and facilitation, paths for a ready connection of neural impulse between many and diversely scattered groups of neurones in various cerebral areas. These engrams when once formed may remain in a latent condition or may at any time become active by an impulse discharged through them. In the arrangement of terms which Semon adopted, the 'engram' remained in a latent condition until 'ecphorized' or made active by the discharge of a neural impulse through it. These engrams were held by him to exist in all degrees of complexity, to dichotomize again and again, and at each period of their active or 'ecphorized' condition to form new engrams within themselves². It is further to be noted that Semon regarded the mental correlates of the engrams (or the symbols which we call 'concepts') to be below the 'threshold of consciousness' during the latent

¹ *Elements in Thought and Emotion*, chap. ii, on Percept and Concept.

² *Mnemonic Psychology*, by Richard Semon, p. 258.

condition of the engram and as above the threshold during its active or 'ecphorized' condition. We are inclined to regard this as an inadequate explanation of this phenomenon and shall refer to the point again later.

We find in studying the masterly paper by Drs Head and Holmes on "Sensory Disturbances from Cerebral Lesions"¹ that some at any rate of Semon's conclusions had been also reached by these investigators, although the terms in which their conclusions are expressed differ in the way which is usual when workers in the same field of research are engaged on the same problem but working in isolation from one another. This classic piece of research was immediately concerned only with those groups of sensory impulses which reach the brain through the spinal cord and medulla but we consider that the conclusions reached in regard to the slowly-acquired systems of paths in the cortex for these sensory impulses have a much wider and more universal application, and that it will be only by their application to all the afferent nerves of the cerebro-spinal system and perhaps also to the sympathetic and para-sympathetic systems that their full significance will be realized and the contribution which they, with Semon's engrams, make to a solution of the psycho-neural problem will be fully understood.

Their researches led them to the conclusion that sensory impulses from the cord and medulla, after exciting the essential thalamic centres, leave the optic thalami in five main functional groups for distribution in the cortex².

1. Those which underlie postural recognition and the appreciation of passive movement.
2. Those which underlie the recognition of tactile differences or the power of appreciating those qualities of touch other than contact and roughness (*e.g.* weights of objects on hand).
3. Those upon which depend spacial discrimination (compass points) and its allied faculty, the recognition of size and shape.
4. Those impulses which enable the patient to recognize the spot stimulated (localization).
5. Thermal impulses.

They show that the appreciation and recognition of the import of these groups of sensory impulses depend on separate 'schemata' or systems of neural paths slowly formed during the ontogenetic life process and which may be severally destroyed by cortical lesions. These

¹ *Brain*, xxxiv, p. 183.

² *Ibid.*

'schemata' along which such impulses pass enable us to recognize, locate and analyse, with an accuracy so subtle as to be utterly beyond expression by means of the clumsy machinery of language, the results of sensory impulses which cannot be resolved into types of imagery and yet which contribute in most important ways to our integrated experience. They have their correlates in our conceptual knowledge but with a refinement and subtlety which often eludes description. In the arrangement of terms adopted by Drs Head and Holmes the 'focus of attention' sweeps over these neural schemata which "modify the impressions produced by incoming sensory impulses in such a way that the final sensations of position or locality rise into consciousness charged with a relation to something that has happened before. Destruction of such schemata by a lesion of the cortex renders impossible all recognition of position or of the locality of a stimulated spot on the affected part of the body¹."

Making the necessary allowances for various conditions under which investigators working separately in the same research field, at the same time, will obviously precipitate their conclusions by means of different terms we seem driven inevitably to the conclusion that the neural 'schemata' of Drs Head and Holmes are identical with Semon's neural 'engrams,' and the psychological abstraction which we call the 'focus of attention' has as its neural correlate that part of the entire 'engrammic' or 'schematic' system which is endowed at any particular moment with the highest neural potential, and the shifting in the engrammic or schematic system of the point of highest neural potential is the physiological correlate of the movement of the 'focus of attention.'

From our present point of view it seems necessary for us to invert this statement. From the biological standpoint it seems to us that in the course of the ontogenetic life process there has gradually been formed in response to the lifelong aggregation of the effects of sensory impulses a huge and complicated network of physiological paths in which are enmeshed innumerable neurones in various parts of the cerebral organs. These physiological paths were termed by Semon 'engrammic systems' and by Drs Head and Holmes neural 'schemata.' We hold that along this huge system of paths, and partly as the result of fresh sensory stimuli, neural impulses are being continually propagated now in one part of the system now in another; that a neural impulse activating one part of the system tends to activate both adjacent and subjacent parts; that those parts which are in a sufficient state of activity tend to throw above the threshold of consciousness their psychological correlates; and

¹ "Sensory Disturbances from Cerebral Lesions," *Brain*, xxxiv, p. 189.

that the part of the system which is at any moment most active owing to the intensity of its neural potential is the part which forms the neural correlate of the psychological abstraction which introspective psychologists and even at times behaviourists call the 'focus of attention'.

Here then in the 'concept' and the 'engram' we seem to have the related thought elements and neural elements which are indispensable for any synthetic or synoptic view of the thought processes on the one side and the neural processes on the other—of thought regarded as a psychological quality of the human mind and the neurological processes which accompany it and furnish its neural correlates. The concept or thought element is the abiding result of a long process of growth or building up from the acquired results of sense-perception, an element which is subject to unceasing change in response to new sense stimuli, and growing with a growth characterized by an increase in mass accompanied by progressive differentiation of structure. On the neural side as the anatomical and physiological correlate of the concept we have the 'engram' of Semon or the neural 'schema' of Drs Head and Holmes consisting of a slowly formed physiological pattern between groups of neurones in different areas of the brain, this pattern also being in continual process of modification and growth like the concept of which we hold it to be the neural correlate. Each psychological entity in thought, each mental symbol or concept, has we think its neural engram, each of these minor engrams forming a small integral part of much larger engrammic systems.

These slowly acquired neural paths may be at one time latent and

¹ In addition to what psychologists call the 'focus of attention' there is of course also the accompanying condition for which James used the term 'fringe of consciousness.' We think that the condition denoted by this term has in part as its neural correlate those regions of an active engrammic system where the neural potential is lower than in the track of the main impulse. It is amongst the commonplaces of our everyday experience that any particular part of, for example, an extended visual image in the field of perception may be at one moment in the 'focus of attention' and at another moment in the 'fringe of consciousness,' and that the change from one to the other is under the control of what we usually call 'volition.' Here at once rise two fundamental questions into neither of which we at present propose to enter:

(1) What are the neural correlates of the psychological abstraction which we call volition?

(2) What are the functional relations in an act of visual perception of the stimuli (a) from the macula, and (b) from other parts of the retina?

The first of these questions seems to us beyond the present bounds of scientific speculation and its solution must be contingent on our interpretation of the term 'volition.' The answer to the second question is probably within the knowledge of Professor Elliot Smith who has made this subject peculiarly his own.

at another time active, or to use Semon's term 'ecphorized,' owing to the discharge of a neural impulse through them. What is known in the jargon of the day as 'the subconscious mind' has in our view as its neural correlate the multitudinous systems of engrams slowly formed during the entire ontogenetic life process, these engrams being in a latent as distinguished from an active condition. And the 'act of recall' to consciousness, be it total or partial, of the multitudinous mental symbols and their inter-relations has its neural correlate in the activating of those parts of the entire engrammic systems which form the neural correlates of the groups of inter-related concepts which are being for the moment 'recalled' to consciousness.

Just as a concept grows in response to the sensory impulses which form an integral part of the perceptual processes by a growth in bulk or mass accompanied by progressively increasing differentiation of structure, so too with the engram. The sensory impulses from the receptor organs which during the ontogenetic life process are continually changing it from a latent to an active condition lead to a growth by which its neural paths are being continually enlarged by ramification and by an increasing number of neurones being functionally incorporated in it, and in these kindred processes of growth in the concept and the engram we have examples of that power of modification and adjustment which on the biological side is usually called 'adaptation to environment' and on the mental or psychological side is one form of what is usually called 'intelligence.'

This view seems to us to open the way to a physiological explanation of what we call 'memory' to complement the work which has been carried out by psychologists on the psychological aspect of this subject. The 'distributed repetitions' of the psychologists have in our view as their neural correlates the activation at similarly distributed intervals of the same engrammic systems. These engrammic systems may be held to become more permanently established by what the physiologists call 'facilitation' when their periods of activation are suitably 'distributed' than is possible by a single period or more rapidly successive periods of activation, and if such engrammic systems are allowed to remain latent for an indefinite period all power of reviving them may disappear and result in a permanent 'forgetfulness.'

But it is of the essence of what we call 'memory' that the subject matter involved should be capable of being 'recalled' by some agency other than the peripheral receptor organs by means of which it was originally acquired—that the engrammic systems which in the acquire-

ment of the subject matter were largely formed by successive series of sensory impulses from the receptor organs, should, for the purpose of 'memory,' be capable of being activated by a central agency apart from the receptor organs, and we think that this will be found to be one of the functions of the Optic Thalami.

To the essential organs of the thalami Drs Head and Holmes assigned the function of being in some way the centre of consciousness for the affective side of sensation. If these investigators are right, and we accept their conclusions on this point, then it seems to us that to these organs we may assign a part, by means of some form of conditioned reflexes, in furnishing the affective elements which enter into every act of perception. It is well recognized that every such act involves the commingling and interaction of old knowledge with the new which is being acquired in that act of perception. "For in a perception, as James said, half comes to us from the thing perceived and half out of our own heads¹." This would seem to involve the activation of engrams from within as well as by sensory impulses from without, of stimulation from a central source as well as stimulation from the peripheral receptor organs. We hold that it is a part of the function of the essential organs of the thalami to provide this central stimulation; that in the processes of perception there is usually an activation of the engrams from the essential thalamic organs supplemented by activation from the peripheral receptive organs, and that these two series of impulses, internal from the essential thalamic organs and external from the peripheral receptor organs, furnish together the 'a priori data' and the 'sense data' involved in every act of perception. In this activation of any group or system of engrams by the essential thalamic organs we find also the neural correlate of that condition which is known to psychologists as 'pre-perception,' and in the changeful continuity of this neural process by which different engrams become successively activated without stimulation from the peripheral receptor organs we find the neural correlate of what is usually called 'reverie' and also of a large part of the mental processes which fall within the range of what we call 'ratiocination.'

But in 'memory,' in 'reverie,' and in 'ratiocination,' it is often of

¹ "The Artistry of Truth," by Professor S. Alexander, *Hibbert Journal*, Jan. 1925, p. 303.

"As it lies in your fancy, then, this object, the reality, is a complex and elusive entity, the sum at once and the residuum of all particular impressions which, underlying the present one, have bequeathed to it their surviving linkage in discourse and consequently endowed it with a large part of its present character," *The Life of Reason*, by G. Santayana, I, p. 82.

the essence of the process that we should be able as we say, to roll a subject over and over in what we colloquially call our 'minds' and survey different parts and aspects of it in continually changing and alternating processes of succession; and we hold that the neural correlates of these various mental processes are intimately bound up with the functions of the paths which return from the various parts of the cortex to the optic thalami—the cortico-thalamic paths. It is little material to the primary question of the function of these paths whether they return from all parts of the cortex (Head and Holmes) or only from parts other than the association areas (Bianchi). This is a question which neurology has not perhaps yet been finally able to determine. It is one of the many questions for the future. But a current view of the function of these paths is that they are concerned in transmitting impulses by which the cortex is enabled to exercise in some way a control over the functioning of the thalami.

It is a part of our thesis to offer an alternative view of the function of these paths and we suggest that they are return paths for reflex neural impulses from the cortex which excite relay cells in the thalami, and that these relay cells in turn send stimuli both to the essential thalamic organs and also to the same cortical areas from which the paths conveying the return impulse originated. We think that in this way a multitudinous series of complex conditioned reflexes become established the end of which is to provide a means by which a continual circulation of neural impulse may be maintained without stimulation from the peripheral receptor organs—a circulation which enables any series of engrams to be continuously activated and their psychological correlates or concepts, in their ever-changing relations, kept continuously above the threshold of consciousness and alternated in the various ways which are a condition of reflective thought.

Merely to state this view is to raise at once the whole complicated question of the nature of what we call 'inhibition.' It would carry us beyond the purview of our subject to discuss this question in any detail. We merely note that the term is applied alike (1) to the diminished heart beat resulting from stimulation of the vagus, (2) to the diminished secretion of glands under certain conditions of the sympathetic and para-sympathetic systems, (3) to the diminished activity under certain conditions of some neural organs, and (4) to phases in the processes of the reciprocal innervation of the opposed muscular groups controlling the skeletal framework.

We take it that the term as usually employed connotes an active

or positive neural impulse which *diminishes* certain kinds of physiological action, and in this sense we think that as applied to a hypothetical restraining action on the thalami by the cortex, and to the reciprocal innervation of opposed muscular groups, it will in the end prove to have been logically inadmissible. We find it stated in works of physiology that although no inhibitory mechanism has been discovered in skeletal muscles, and although there is no known instance of a peripheral nerve which when stimulated causes relaxation of these muscles, yet the fact that an extensor muscle severed from its distal attachment lengthens when the flexion reflex is stimulated is held to prove the existence of an *active* inhibitory process. We hold this to be an illogical inference which will in due time be eliminated by the application of Occam's razor. *Entia non sunt multiplicanda praeter necessitatem*, and we see no necessity for hypothecating the existence of a special inhibitory mechanism to explain this phenomenon: we see only the need of hypothecating a neural mechanism capable of simultaneously diminishing the stimuli to one group of muscles and increasing those to the opposed group, thus securing a co-ordinated and simultaneous intensive adjustment of the neural potential supplying both flexors and extensors. We adopt in short a view something like that expressed by Professor Bianchi in his book on *The Mechanism of the Brain and the Function of the Frontal Lobes*, viz. that what is usually called 'inhibition' must in many cases be regarded more as a change in neural potential than as the manifestation and result of a special inhibitory mechanism, unless indeed this so-called inhibitory mechanism be regarded as one which acts by re-directing or changing the intensity of the neural potential. Whether future research will confirm Professor Bianchi's opinion that all inhibition is a re-direction of neural potential remains for the future to determine, but we suggest that a similar kind of neural mechanism, whatever it may be, will be found at work effecting the intensive and directional changes of neural impulse in the cerebral engrammic systems and also those involved in reciprocal muscular innervation.

We regard then as one of the factors contributing to the neural sub-strata of reflective thought the formation during the ontogenetic life process of innumerable engrams extending from the thalami to the various cortical lobes connected with their respective receptor organs, visual, auditory, olfactory, tactile, etc.: that these engrams inter-communicate through the association areas; and that, however complex may be their structure and however extended their distribution and range, they each comprise a neural mechanism which, by means of a

series of conditioned reflexes, can maintain a continuous circulation of neural impulse between the thalami and the cortex: we think that these multitudinous engrammic systems may be activated either (1) from the essential organs of the thalami, or (2) from the peripheral receptor organs, or (3) concurrently from both these sources, and that by some means at present beyond our knowledge the neural impulse whether from the thalami or the receptor organs or from both may be under a continual process of re-direction to different parts of the entire aggregate of engrammic systems.

"The sensory cortex is the storehouse of past impressions¹," and these engrams which are the outcome of the ontogenetic life process come doubtless to incorporate in their systems the multitudinous neurones found in the different layers of the cortex; and in the unimaginable intricacy and complexity of the multitudinous paths formed by means of these cells and by the varying resistances offered by the synapses between them there is we think gradually built up and stabilized the neural counterpart of what we retain of these past experiences.

In the stratified arrangement of the multitudinous neurones in the cortex and the diverse complexities of the engrams embracing the neurones in these different strata we see the neural mechanism involved in 'Generalization,' in 'Classification' and in 'Abstraction': in the 'Universals' and 'Particulars' of the Philosophers, in the 'Genera' and 'Species' of the Logicians and Biologists and in logical constructions like the 'Tree of Porphyry.' "Are genera and species," said Huxley, "realities or abstractions?" Viewed from the standpoint we are now presenting we think we must tentatively answer that they are abstractions.

We have already expressed the opinion that in the activation of engrams by the essential organs of the thalami will be found the neural correlates of a large part of the mental processes concerned in what we call 'ratiocination'; and in the results of the reciprocal interaction of the internal stimuli from these organs and the external stimuli from the peripheral receptor organs will we think be found the neural correlates of what the logicians call 'judgments.' Of such judgments we may take as a simple illustration the case of someone pointing to a rose and saying, "This rose is red!" Here we think there comes into play that condition which psychologists call 'pre-perception': that this involves the partial activation by the essential thalamic organs of a large number of engrams

¹ "Sensory Disturbances from Cerebral Lesions," by Henry Head and Gordon Holmes *Brain*, xxxiv, p. 189.

—of the whole series of engrams which in the aggregate form the neural correlates of the mental symbol or concept 'rose' and all its several differentiae which happen to be stored in the cognitive dispositions of the person expressing the judgment; and that the sensory impulses from the peripheral receptor organ (the eye), simultaneously re-enforcing the internal stimuli from the essential thalamic organs to the engram which forms the neural correlate of the concept 'red,' furnishes the combination of neural processes which forms the neural correlate of, and which issues in, the judgment. And in logical judgments dealing with a greater number and a greater complexity of phenomena—judgments which we call 'considered judgments': judgments which are not immediate but which are mediated by a discursive mental process—we consider that essentially the same neural processes will be found to be involved despite their greater complexity. Here we think is a suggestive theme to occupy the united attention of the logicians and the neurologists.

One of us (G. G. C.) has shown reasons from the psychological side for thinking that all the usual mental processes which we call observation, inference, imagination, reason, etc., can be resolved into the reactions and interactions of 'percepts' and 'concepts'¹: percepts being in his arrangement of terms the psychological correlates of the interactions of fresh sensory impulses from the various kinds of receptor organs with the processes of the organized neural tissues which are the outcome of the ontogenetic life process. If throughout his argument we substitute for the psychological term 'concept' the neural term 'engram,' as denoting its neural correlate, the relation of the views expressed in this paper with his theory of epistemology will become at once apparent.

We have sketched now the more fundamental considerations upon which in our opinion depends a solution of that part of the psycho-neural problem which is concerned with reflective thought, and these considerations seem to bring us to the following conclusions.

CONCLUSIONS.

1. We adopt the view of the concept postulated by Bergson and elaborated by Santayana and Campion as the psychological or mental element or atom desiderated and sought by Wm. James as the first step towards the formulation of an elementary psycho-physic law. This provides an element—largely the abiding, organized and cumulative effects of sense-perception—of which all our cognitions are gradually built up during man's brief span from infancy to age.

¹ *Elements in Thought and Emotion.*

2. We have shown that the growth of this mental element in its various manifestations is congruous with the neurological processes which establish in the course of the ontogenetic life history physiological paths for impulses between the multitudinous neurones in different lobes and areas of the brain. We adopt Semon's term 'engrams' to denote these physiological paths. We regard the 'engram' as the neural correlate of the 'concept' and the latent condition of the engram as the condition which usually subsists when its conceptual correlate is 'below the threshold of consciousness,' and the active or 'ecphorized' condition of the engram as the condition which usually subsists when its conceptual correlate is 'above the threshold of consciousness.' But we think that this is only restrictedly true and that it must be held to be merely one of a larger complex of factors. It is often we think possible for an engram to be in an active or 'ecphorized' condition without its conceptual correlate becoming above the threshold of consciousness. We consider that herein may be found the explanation of those psycho-pathic states which are characterized by what are usually known as 'suppressed' phases of past experience. In these cases we think that the engrams which form the correlates of the suppressed experience may have become functionally dissociated from larger engrammic systems and especially from direct communication with the essential thalamic centres, and that it is their dissociated functioning which gives rise to the symptoms which are known to be associated with such suppressed phases of past experience.

3. We regard the aggregation of the 'engrammic systems' of neural paths when in a latent condition, *i.e.* when no impulse is passing through them, as the neural correlate of what is called 'the subconscious mind.'

4. We consider that just as a concept itself is changing by a process of growth in the way described during the life process of the individual this is accompanied by and has its neural correlate in a corresponding growth in the 'engram,' and that just as in our processes of active thought that quality which we call our 'attention' is transferred rapidly from concept to concept in all their wide relations and through an unending series, so also is this associated with a corresponding change in the correlative pattern of neural impulse in the attendant 'engrams.'

5. We note and emphasize the fact which neurological science has brought to light within the last half-century that all afferent nerve stimuli in the cerebro-spinal nervous system pass into the optic thalami on their way both to the essential organs of the thalami and to the various cortical areas of the brain.

6. We adopt the view of Head and Holmes that the thalami form the great junctions where the afferent stimuli from all the receptor organs may be redistributed. This function of the thalami as a great junction for afferent stimuli provides we think the neural mechanism by which the perception of touch through one of the fingers may be the means of exciting, *e.g.* what are called 'visual images,' by means of the optic lobes.

7. We adopt the view of Head and Holmes that the essential organs of the thalami perform in some way the function of the central seat of consciousness for the affective side of sensation and the cortex the seat of the discriminative perceptions of space, form, colour, sound, position, etc.

8. We regard the essential thalamic organs as affording by some form of conditioned reflexes one means of activating the various engrammic systems, and alternatively that such activation may be the result of stimuli from the peripheral receptor organs or concurrently from both of these sources.

9. We regard that part of an active engrammic system in which the neural potential is most intense and which is in most direct communication with the essential thalamic organs as the neural correlate of what the psychologists call the 'focus of attention' and those parts of the same active engrammic system in which the neural potential is less or which are in less direct communication with the essential thalamic organs as the neural correlate of what the psychologists call the 'fringe of consciousness.' But this in itself is in our opinion inadequate to explain all the associated phenomena which require for their full elucidation further research in the physiology of special sensation.

10. We regard the activation of the various engrammic systems by the essential thalamic organs as the neural process involved in what is usually called 'memory' and in what Semon called the 'mnemic excitation' (as distinguished from the original excitation) which 'ecphorizes' the multitudinous engrams, changing them from a latent to an active condition, so bringing above the 'threshold of consciousness' the multitudinous and ever-changing concepts of which the 'engrams' form the neural correlates. We also regard this activation of engrams by the essential thalamic organs as furnishing the neural correlates of what in the chaotic vocabulary of our present discords, have been variously termed 'the datum' of consciousness, the '*a priori* data' of the perceptual processes and 'pre-perception.'

11. We regard the fibres which descend from the cortex to the

thalami as conveying stimuli from the engrams in the various areas of localized perceptions or cognitive dispositions, and that these stimuli excite relay cells in the thalami which again send stimuli to the same cortical areas and that the continual action of this circulatory system of neural impulse from cortex to thalami and from thalami to cortex goes far to constitute the thalami as organs contributing in important ways to the continuity of reflective thought.

12. With the concept as an element of thought on the psychological side having the characteristics described and the engram as described by Semon furnishing its neural correlate; the first of these entities being infinitely mobile and ever in course of merging into others; and this mobility having as its neural correlate an ever-shifting range of activation in an otherwise latent aggregate of engrammic systems, we seem to possess a view of complementary processes, psychological and neural, congruous with one another and affording together the needful explanation of the continuity and fluidity of thought. As to the processes by which the requisite changes in the direction of the neural potential are being constantly made we are unable at present to offer any hypothesis, but we imagine that when these are discovered they will be found somewhat similar to the processes which direct, alternate and adjust with finely graded and continually changing intensity the stimuli to the nerves supplying the balanced groups of muscles which alternately flex and extend the limbs.

13. These views seem logically to bring us to the conclusion that it is necessary for us to regard what is usually called 'inhibition' as being, at any rate in some cases, more in the nature of a re-direction or intensive modification of neural potential than the effects of a positive neural discharge inhibiting other neural discharges. In this we find ourselves in agreement with the opinions expressed by Bianchi in his book on *The Mechanism of the Brain and the Function of the Frontal Lobes*, and by Morley Roberts in his book on *Warfare in the Human Body*¹, but we realize that this conclusion questions a current view of the inter-relation of cortical and thalamic functionings. We think that the implications involved in the phrase 'cortical control' need to be further investigated and the attendant phenomena possibly re-interpreted.

14. We regard the formation and functional maintenance of the multitudinous engrammic systems as the neural mechanism involved in the storage of past experience.

15. We regard the formation of complex engrams embracing several

¹ *Op. cit.* chap. iv, "Inhibition and the Cardiac Vagus."

or all of the various layers or strata of neurones in the cortex as providing the neural mechanism involved in the mental processes of abstraction, generalization and classification.

16. We regard the concurrent activation, of such engrams by both the essential thalamic organs and the various kinds of receptor organs as the neural processes concerned in immediate logical judgments and also in those mediated by a discursive mental process.

17. These views seem to us to open the way directly or indirectly to further research in the direction of

(a) A physiological explanation of 'memory' to complement the work which has been done by psychologists during the last thirty or forty years on the psychological aspect of this subject;

(b) A more specific application of the biologist's Recapitulation Theory to the mental development of Man;

(c) A closer investigation of the neural mechanism of sleep;

(d) An investigation of the neural mechanism of 'suppression,' 'dissociation,' 'conflict,' and 'psychological inversion,' and

(e) A study concurrently both psychological and neural of the phenomena of human error and self-deception, a subject which the great philosophic system makers have more or less tended to ignore, yet one which must form an important part of the prolegomena to any really philosophic theory of the state.

In presenting this outline of our subject and these conclusions we are fully conscious that many may think we have strayed too far over the boundary line between science and speculation and suffered the stream of our argument to become not a little contaminated by mixture with what some will regard as the turbid waters of metaphysics¹. If this be so we may recall two sayings of Thomas H. Huxley: (1) that "the sensory operations have been, from time immemorial, the battleground of philosophers²," and (2) that "metaphysical speculation follows as closely on physical theory as black care upon the horseman²." Yet in these views we seem to reach a further stage on the pathway which will lead ultimately to a resolution of the diverse biological processes which underlie the relation of the abstraction which we call 'consciousness' to

¹ "When we talk of 'psychology as a natural science,' we must not assume that that means a sort of psychology that stands at last on solid ground. It means just the reverse: it means a psychology particularly fragile, and into which the waters of metaphysical criticism leak at every joint, a psychology all of whose elementary assumptions and data must be reconsidered in wider connections and translated into other terms." *Text Book of Psychology*, by Wm. James, p. 467.

² *On Sensation and the Unity of Structure of the Sensiferous Organs*. (1879.)

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the neural parts and processes which furnish its anatomical and physiological sub-strata. But the dark Psyche of the Greeks will ever remain dark to the investigations of mortal man. The utmost we can do is to unravel little by little the physiological and biochemical processes by means of which the Psyche works and correlate these processes with the various neural organs in which they have their seat and through which they perform their functions.

It was forty-six years ago that Huxley declared the psycho-neural problem to be "the metaphysical problem of problems"; and, to go still further back than Huxley and to a complementary view, if Kant was right that the constitution of our minds predetermines the form which all our knowledge takes, then we think that to some such working of the neural vehicle of thought which we have outlined must be ascribed its part in all the ratiocinations of the philosophers, in all the refinements of the theologians, in the creations of the poets, the painters, the sculptors and the musicians, in the uttermost particles of the physicists and in the artistic abstractions of the mathematicians. The Newtonian method of analysis and subsequent synthesis will then be found not merely to be applicable to mental science but to be itself actually conditioned by the mode of working of the neural processes which underlie that science, and which furnish the sub-strata of all the phenomena amongst which we live and move and have our being.

It will be obvious that in a subject of such complexity, upon the study of which philosophy and science can hardly as yet be said to have fully entered, any theory or hypothesis at present put forward can at best be merely provisional, and will perhaps attain its most useful end by directing attention to a method of approaching the subject which, whatever its defects as here set forth, possesses at least the merit of recognizing that it will be only by considering synoptically and finding an integration of both sides of the problem—psychological and neural—that any real success in its solution is likely to be achieved. And, in view of what Mr Santayana has happily termed "the many sided ignorance" to which in these days individuals are all reduced, it would seem that it will lie with workers in the diverse spheres of metaphysics, logic, psychology, neurology and even wider ranges of biology to test in every possible way the view here outlined, to supply its myriad needs of detail and to refashion it where faulty by means of the new light which will be shed upon it by our ever increasing knowledge. We believe that study on these lines, directed rigorously to the pursuit of truth will lead ultimately to an outlook on man not essentially different from that envisioned by the sages and seers of all historic times.

AN UNWARRANTED ACCRETION TO THE FREUDIAN THEORY¹.

By IAN D. SUTTIE.

SINCE it is plainly asserted by many advocates of the theory of Mental Recapitulation that it is merely an extension and completion of the 'Biogenetic Law,' I wish to examine the value or utility of the *Biological* Theory, and to endeavour to ascertain how far it has the same value for psychology as it has or *was supposed to have* for biology.

The 'Biogenetic Law' had, or *promised*, for biology the following advantages:

1. It supported the general theory of Evolution at a time when that theory was bitterly attacked.

2. It correlated a vast group of observed facts and suggested promising lines of enquiry.

3. It explained the embryonic appearance of non-adaptive phases and characters, at a time when the theory of selection by 'fitness' seemed to demand a functional explanation for everything. By regarding them as vestiges of ancestral adaptations, it explained away the apparent anomaly of the embryonic appearance and disappearance of characters like 'lanugo' and brought these round-about and seemingly meaningless peculiarities of development into line with other vital processes as then conceived.

4. It promised to enable us to generalize from observed instances of onto-phylogenetic parallelism, to infer that all embryonic characters are recapitulatory and thus to 'reconstruct' phylogeny—a task which was the main interest of most biologists at the time when the Recapitulation Theory was at the zenith of its prestige.

5. The goal of *Biology* was to explain Evolution on the one hand and Development on the other. Recapitulation correlates these two hemispheres of *biology*; and thus in a way it became the central fact and the *key* problem of life. The Biogenetic Law discovered a causal connection between development and evolution which, plainly, could be no other than the 'compendium' of evolution and the mainspring of development. Is it any wonder that the significance of this fact rather

¹ Read before the Medical Section of the British Psychological Society on June 24th, 1925.

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dazzled the biologists of that day and led them to select the evidence and strain their interpretations?

I will now deal with these five points, indicating how far biological opinion has changed in respect to each and how far each is valid for psychology as well as for biology.

1. The vogue of the Recapitulation Theory owed much to its association with triumphant Darwinism. This, though an important, was never a legitimate reason for accepting the Biogenetic Law. The Psychological Recapitulation Theory can certainly never assist our understanding of Evolution and consequently cannot and does not claim any heuristic validity on that ground.

2. The onto-phylogenetic parallelism is far less conspicuous and definite in regard to behaviour and function generally than it is in regard to structure. Though the descriptive utility of the Recapitulation formula is as great as ever *for biology*, I know of no facts sufficiently certain and well-defined to justify the introduction of this hypothesis into psychology. The parallelism between mental evolution and mental development is not obvious, nor is it sufficiently exact to justify us in postulating a 'mechanical' causal connection. This being so, Mental Recapitulation does not form a natural starting point for further enquiries as Organic Recapitulation promised to do. The Mental Theory carries an illusory promise of a biological explanation, thus obscuring the necessity for further *psychological* investigations.

If the evidence for mental recapitulation is convincing, is it not a curious fact that it is never adduced? Freud, in *Totem and Taboo* (1913), dealing with (as his main theme) the resemblance between infantile and archaic thought processes, *never even mentions* Recapitulation. Far otherwise, he develops in this work a theory of 'Unconscious Tradition,' and in this way makes the introduction of the Biogenetic Law superfluous. At the time of writing he apparently felt no need to go outside of psychology for an explanation of psychological facts. Only later, and in the most irritatingly casual and incidental way, does he appear to have considered it necessary to resort to biological interpretations.

In his *Introductory Lectures* (1915-17) we find his views in a form which presumably he regards as suitable to put before students—that is to say duly cautious and explicit.

Page 168. "In so far as each individual repeats in some abbreviated fashion during childhood the whole course of development of the human race, the reference (of dreams) is phylogenetic. I believe it is not impossible that we may be able to discriminate between that part of the

latent mental processes which belongs to the early days of the individual and that which has its roots in the infancy of the race. It seems to me, for instance, that symbolism, a mode of expression that has never been individually acquired, may claim to be regarded as a racial heritage."

Page 197. "In considering the two developments undergone by the Ego and by the Libido we must emphasize an aspect which *hitherto has received little attention* (italics mine). Both of them are at bottom inheritances, abbreviated repetitions of the evolution undergone by the whole human race....In the development of the libido this phylogenetic origin is readily apparent, I should suppose. Think how in one class of animals the genital apparatus is in the closest contact with the mouth, in another it is indistinguishable from the excretory mechanism, in another it is part of the organs of motility....One sees in animals all the various perversions, ingrained, so to speak, in the form taken by their sexual organizations. Now the phylogenetic aspect is to some extent obscured in man by the circumstance that what is fundamentally inherited is nevertheless individually acquired anew," etc.

Page 307. "In the place of effecting a change in the outer world they set up a change in the body itself; that is, an internal action instead of an external one, an adaptation instead of an activity—from a phylogenetic point of view again a very significant regression."

Page 310. "All this seems to lead to but one impression, that childhood experiences of this kind (phantasies of seduction, castration, etc.) are in some way necessarily required by the neurosis, that they belong to its unvarying inventory. If they can be found in real events, well and good; but if reality has not supplied them they will be evolved out of hints," etc. "Even to-day we have not succeeded in tracing any variation in the results according as phantasy or reality plays the greater part in these experiences." "How is it to be explained that the same phantasies are always formed with the same content? I have an answer to this, which I know will seem to you very daring. I believe that these primal phantasies...are a phylogenetic possession. In them the individual stretches out beyond it (his own) to the experience of past ages....The child in its phantasy simply fills out the gaps in its true individual experiences with true prehistoric experiences."

As the lectures are didactic, these statements are presumably intended to be accepted literally. In *Beyond the Pleasure Principle* Freud refers in unmistakable terms to recapitulation, not as a theory, but as an unquestionable and accepted fact. Page 45: "We see that the germ-cell of a living animal is obliged to repeat in its development—

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although in a fleeting and curtailed fashion—the structures of all the forms from which the animal is descended, instead of hastening along the shortest path to its own final shape.”

In *Leonardo da Vinci* (1910) also we find a reference to recapitulation.

Page 60. “Important biological *analogies* (my italics) have taught us that psychic development of the individual is a short repetition of the course of development of the race.” Note here he refers to analogies, and that in *Totem and Taboo* (p. 265) he warns us: “We must not let our judgment about primitive men be influenced too far by the *analogy* with neurotics” (italics mine). From the form of these earlier pronouncements, from the absence of reference to phylogeny in *Three Contributions to the Sexual Theory* (which is concerned with the causes of development) and in *The History of the Psycho-Analytic Movement*, and particularly from his hypothesis of ‘unconscious tradition’ (which renders the recapitulatory hypothesis superfluous), I am inclined to suppose that Freud did not originally found upon the ‘biogenetic law,’ but accepted it from others.

Consider what precision, what explicitness, what evidential justification appears in these quotations particularly what *use* the theory is to psycho-analytic theory or technique. Is it not a dead end or *cul-de-sac* of psychological investigation—a moral extinguisher upon all enquiry? There is here no actual and observed parallel between developmental and evolutionary processes—no resemblance *close and detailed* enough to demand a causal interpretation. Freud appears only to *infer* recapitulation on biological grounds and because he fancies he has excluded the possibility of ontogenetic influences. There is no specific phase or character which is alleged to follow the biogenetic law. Vague and obscure phenomena, abstract reactions such as “the symbolic mode of expression” are suspected to “hark back to ancestral levels.”

Where Freud does attempt to make a close application of the theory, as in the second quotation, he is surely reducing it to an absurdity.

In the second reference he is suggesting that oral, anal and muscle erotisms are psychological vestigial phases, representing and homologous with certain organic adult ancestral forms. He implies that, though evolution has changed the form so that the sexual organs are no longer closely associated with mouth, anus or limbs, yet the reactive disposition of sex, in the course of its development, passes inevitably through phases in which it is closely associated with and influenced by alimentary, excretory and motor functions. That is to say, the instincts are supposed to recapitulate, as a rudimentary functional association, an ancestral

spatial association of their respective organs, which organic recapitulation fails to record. Mental recapitulation in this way will be able to tell us not only about the behaviour of ancestral forms, but even about their structure! Disregarding innumerable difficulties this raises, consider that Freud is here implying (a) that all the types of organization he mentions appear in the human ancestral series, and (b) that they appeared in evolution in the order in which he here mentions them. Unless these things are so, his recapitulatory interpretation of libidinal development breaks down. He does not even seem to be aware that his argument turns on these two points, and makes no attempt to demonstrate them or to cite biological opinion in favour of his assumption. He apparently regards all non-human animals as ancestral forms, and imagines himself at liberty to arrange them in any genealogical sequence he pleases. The results of such a method are "readily apparent, I should suppose," and the most exasperating feature is that, having permitted himself such liberties with biology and with scientific method in general, he makes no use of the conception, and does not develop or apply it in any way.

Yet to be demonstrable and to be of any use in interpreting facts, the Recapitulation Theory must be capable of close application to the details of clinical psychology. As an example I might quote J. E. Lind¹: "Of course, strictly speaking, we are not able to say definitely that any delusion, hallucination or mannerism goes any further back than the life-history of the individual. We can only surmise from the nature of some of them that they belong to the race-consciousness." In regard to a demented negro, who says he ate his wife because he loved her, Lind remarks: "We feel that such an expression is something more than ontogenetical." The hallucinations of a deteriorated praecox patient, who saw cows' heads on the wall of his room, "might not ordinarily attract much attention, but when we remember that throughout nearly all Africa the natives are an agricultural people and cattle are their chief possession (?), it takes on a different aspect." One can only remark that, if our memories cannot be trusted in regard to elementary facts learned in the schoolroom, we will have to be chary of trusting them in regard to ancestral experiences of events and conditions thousands of generations ago. Among this author's examples of supposed phylogenetic thinking we find this: "Patient dreamed of 'chockchuckoo'... and that one day he made 4000 children"—the good old days, we presume. Lind further remarks: "I have often thought that a careful

¹ *Psychoanalytical Review*, 1917, iv, 324.

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study of neologisms among negro psychotics might result in the discovery of many African roots." He thus regards language as germinally transmitted.

Comment on this wild interpretation is clearly superfluous, but I maintain that the only alternative open to mental recapitulationists is to leave their theory so vague and inapplicable that it is useless and undemonstrable.

3. Recapitulation explained the appearance in embryogeny of non-adaptive, relatively useless characters. It held that the latter indicated that the ancestry of the organism had once possessed them in a functionally useful form. For example, 'lanugo' appears and then disappears, and this otherwise inexplicable fact is interpreted as showing that the human ancestry passed through a phase of evolution in which adults were wholly covered with hair.

This brought all such round-about, indirect modes of development into line with the striking facts of *rudimentary organs* reported by the comparative anatomists, as also with atavisms and other abnormalities. At one stroke the Evolution-Recapitulation Theory explained them all and harmonized these 'vestiges' with the prevalent opinion that all organs must have utility. It is not wonderful then that the doctrine of recapitulation was at that time highly convincing and highly valued; but we should note that it has not and never has had this utility for psychology. Genetic psychology does not show us any examples of non-functional mental structures. Mental activity has at least an hedonic function for the infant. We do not know of any definite mental activities which are meaningless, functionless, non-responsive—so wholly artistic and endogenous—as for example the transient appearance of gill-clefts in the ontogeny of man. There is not therefore, I suggest, this particular reason for postulating Recapitulation in Psychology. One of the main values of the theory exists only for Biology.

4. The interest of Biology, at the time when the Recapitulation Theory was at the zenith of its fame, was very largely centred on the problems of Evolution. Anything that promised to throw light upon the phylogenetic series was welcomed with more enthusiasm than discretion. Haeckel was the great protagonist of the Biogenetic Law, and, though he was not perhaps in the front rank of biological thinkers and investigators, yet his influence was supreme in impressing this theory upon popular tradition. I think, moreover, that it is from popular tradition and from the biology of fifty years ago, that psycho-analysis imported this theory. At any rate their advocacy of *mental* recapitulation

does not seem to be tempered by doubts from current biological opinion.

Haeckel said (*Evolution of Man*): "We may draw our conclusions with the utmost certainty as to the nature of the ancestral form, from the features of the form which the embryo momentarily assumes."

Plainly this means that he thought it allowable to infer from demonstrated instances of onto-phylogenetic parallelism, that every developmental phase has its ancestral homologue. Haeckel is here commending Recapitulation to us because it will enable us to reconstruct in imagination the course of evolution from our observations of the course of development.

I strongly suspect that the psycho-analytic acceptance of the Recapitulation Theory has been mainly motivated, not by a desire to explain, predict and control mental development, but by a desire to penetrate the mysteries of the past. This is all very well as archaeology, and I would be the last to deny that the psycho-analytic interest in primitive culture has been legitimate or fruitful. It is, however, suspiciously like an attempt to explain the known in terms of the unknown, and in any case—as I shall attempt to show—it is bad psychological method.

At this moment, however, I wish merely to point out:

1. That it is an *interest* not strictly relevant to psychopathology which determined the Freudian acceptance of the Biological Theory.
2. That the corresponding biological attempt to discover the course of evolution by a study of ontogeny has been totally unsuccessful.

It was indeed abandoned by Haeckel himself, who had to admit "in most cases the correspondence is very imperfect" (that is, the correspondence between ontogeny and phylogeny).

The illusion, that it is possible to reconstruct evolution from observations of development, did not indeed last long enough to save Haeckel from contradicting himself within the limits of one chapter, as the quotation given above will show.

Sir Archdall Reid—a convinced recapitulationist—says of the resemblance between ontogeny and phylogeny, "it may and usually does, become unrecognizable,...as a result we cannot with any degree of accuracy trace the early ancestry of our race by watching the development of the individual." "No one having an elementary acquaintance with the facts has ever alleged that recapitulation is ever other than incomplete and inaccurate" (*Laws of Heredity*). He refers also to complete obliterations and falsifications of the record. Comparing this with

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Haeckel's statement above ("We" may infer "with the utmost certainty," etc.) we may see how completely biological opinion has changed in regard to recapitulation as a valid generalization.

These admissions are so handsome that it seems almost ungrateful to ask—what is the use of declaring that development *must* recapitulate evolution (as Sir Archdall does) while, at the same time, it is admitted, that in point of fact it does no such thing?

In comparing the validity of the Psychological with that of the Biological Theory of Recapitulation we have to note the following:

1. That psychological observations of development are relatively vague—far more difficult to identify with certainty than features and phases of *organic* development.

2. That we have, in psychology, no phylogenetic data comparable to that supplied to biology by palaeontology.

3. That for these and other reasons the mental parallelism and Recapitulation Theory can never be of the same significance for our understanding of evolution, as were the corresponding organic facts.

4. Biology recognized always a class of exceptions to the Biogenetic Law, which were called cenogenetic characters. These are *special* adaptations to embryonic or adult environment. Mind, as the most adaptive of all characters, *should* prove such a 'cenogenetic' character. Clearly it has far more in common with the selective responses to external stimuli (which do *not* recapitulate), than with the standardized and stereotyped processes of development which do and which are unmodifiable by any special circumstances compatible with the life of the individual.

On *a priori* biological grounds therefore Mind does not recapitulate Method.

5. The onto-phylogenetic parallelism and the Theory of Recapitulation have a very direct bearing on the problem of the mechanism of evolution, inheritance, etc. These are biological, not psychological problems, and, consequently in this respect at least, the Biogenetic Law has not the same significance for Psychology as for Biology.

In fact the contrary is the case, since the theory plainly implies that the mechanism of Recapitulation *is* the Germ Plasm. Lamarckians and Weissmannians, though they differ as to the ultimate origin of variations, agree at least that the vehicle of inheritance—the link by which the onto-phylogenetic parallelism is maintained—is the Zygote. Therefore, only in so far as mental characters are innate or germinally determined can they recapitulate. In alleging that any character recapitulates we deny that it depends upon any special stimulus in the life-history of the organism.

Now in my opinion the true task of Psychology is to evaluate the influence upon mental development of the different environmental circumstances in the life-history of the individual. From a knowledge of these latter factors, it is possible to predict and direct mental development and even, conceivably, to reverse or undo undesirable deviations therefrom. The efficacy or value of Psychology depends obviously upon how far environmental factors do influence mental processes, for the germinal or hereditary factors are relatively inaccessible to control, or even to investigation. So far as the causes and meaning of thought and behaviour lie in the adult ancestral life rather than in the special circumstances of the individual life, *so far* prophylaxis is inconceivable. Effective interference of any kind with these vestigial but inevitable recrudescences of primitive thought is difficult even to imagine. The Ancestral Factor enters the life of the individual as *physico-chemical disposition* in the germ cell. The nature of this we cannot even imagine. In any case its investigation hardly lies within the province of Psychology. We must remember, moreover, that we do not know it *positively*, but only by a supposed inclusion of *ontogenetic* causes.

The Phylogenetic Factors in life are not, then, Psychological, but represent rather the limits of this Universe of Discourse, beyond which Cytology, etc. 'takes over.' I suggest therefore, since this limit cannot be positively determined, that it is *bad method* to magnify the importance of phylogenetic, non-psychological factors which are relatively inaccessible, merely because no psychological (ontogenetic) aetiology has *yet* been discovered. The Recapitulation Theory, as a biological and highly obscure explanation of early mental development, tends to pre-empt a field which otherwise might be more fruitfully studied by Psychology.

THE "SYNTHESIS" OF AN ANXIETY NEUROSIS

By A. WOHLGEMUTH.

I.

I AM using here the term *Synthesis* antithetically to the term *Analysis*, but neither of them in their proper scientific meaning. *Analysis* really means the separating of a compound into its constituent parts, and *synthesis* the combining of parts into a compound. In this sense the term is used in psychology. During introspection a mental process is observed and split up, so to speak, into its component part-processes. To give an actual example: A drop of dilute acetic acid having been put on the tongue of an observer in the attitude of introspection the experience was described as follows:

At first there was merely a tactile sensation, then warmth which was pleasant. This changed to a definite gustatory sensation which was slightly unpleasant. I became aware of pricking sensations, at first slightly unpleasant, becoming at intervals pleasant. Gustatory sensations returned to consciousness with prick and became highly pleasant at intervals. The whole had a tone about it which is best described as voluptuous. Then the prick became more unpleasant, although a pleasant element remained in consciousness. They appeared to be together simultaneously or in rapid succession. Then I swallowed.

Here the apparently simple experience of tasting a drop of acetic acid has been analysed¹.

However in psycho-analytic literature and in the so-called 'New Psychology' the term *analysis* has no such meaning. The so-called 'analysis of the mind' amounts, speaking scientifically, to the tracing of unknown antecedents which are supposed to stand in causal relation to known consequents. The following is an example taken at random from Freud:

A lady living apart from her husband had at meals the compulsion to leave the best behind on the plate, e.g. to eat of a piece of meat only the outer part. This self-denial was explained by the date of its beginning. It began on the date when she refused her husband conjugal rights, i.e. she renounced the best².

Here is no analysis in the proper scientific sense of the term, and *synthesis*, used antithetically, would mean then, the tracing of the chain of causal relations in the direction from antecedent to consequent.

¹ See also G. F. Stout, *Analytic Psychology*, 4th ed. London, 1918, vol. i, ch. ii, or vol. ii, p. 20 note; James Ward, *Psychological Principles*, 2nd ed. Cambridge, 1920, ch. ii.

² Sigmund Freud, *Sammlung kleiner Schriften zur Neurosenlehre*, 2te Folge, Leipzig, etc., 1909, p. 125.

II.

The next point to be considered is a psychological one and refers to what has been called the 'Transference of Feeling.' By this is meant that the feeling-element of one experience influences or determines the feeling-element of another simultaneous experience. I will not give here more or less imaginary examples, purported to be taken from everyday life, but rely upon results obtained from an experimental investigation on the feeling-elements¹. This research was carried out with the assistance of four observers, all highly trained psychologists. Simple stimuli affecting the various senses were given singly or in pairs, and the protocols were immediately written down from dictation. When the series of experiments were completed, the protocols were scrutinized, and any statements that appeared to have any reference to 'feelings' were carefully noted. Similar statements were classed together, and classes having some common relation were put into corresponding groups. The results thus obtained allowed me to formulate certain 'Rules.' One of the groups contained thirty-five statements². These had reference to

(a) Transference of the feeling-element of an idea, or of an image, to a sensation.

- (1) A pleasant idea making a sensation pleasant.
- (2) An unpleasant idea making a sensation unpleasant.
- (3) A pleasant image making a sensation pleasant.
- (4) An unpleasant image making a sensation unpleasant.

(b) Transference of the feeling-element of a sensation to an idea or an image.

(c) Transference of the feeling-element of one sensation to another sensation.

(d) Transference of the feeling-element of an emotional process to a sensation.

The following are a few examples:

(a) (1) Transference of the feeling-element of an idea to a sensation: a pleasant idea making a sensation pleasant. Experiment W. 62. A square piece of green paper was presented to the observer:

At first the sensation was slightly unpleasant and during this time it appeared slightly crude, then it became indifferent, then slightly pleasant. At this time I had a vague idea that green was the colour of Ireland. The pleasure seemed vaguely connected with this. I had the faintest possible image of some green garment. Towards the end this faded away and the colour became as nearly as possible indifferent.

¹ A. Wohlgemuth, "Pleasure-Unpleasure. An experimental investigation on the feeling-elements," this *Journal*, Monograph Supplement VI, Cambridge University Press, 1919.

² *Loc. cit.* pp. 201 sqq.

I will also give experiment W. 70, the first part of which is an illustration of (d) below. Two visual stimuli, namely two square pieces of coloured paper were presented to the subject one of which, No. 6, was of a yellowish colour. The protocol runs as follows:

No. 6 unpleasant at first, very slight emotion of disgust. Now I am not absolutely certain about this, the emotion of disgust was there first and then the colour became slightly disgusting and dirty. The emotion and corresponding idea about the colour gradually vanished from consciousness and at the same time the accompanying unpleasantness until a state of almost complete indifference was reached. I then thought the colour was like khaki and I had a very vague thought that khaki, and therefore this colour, is useful. At this point the sensation was very slightly pleasant, but this pleasure faded and a state of indifference came back.

Experiment X. 15. A drop of a concentrated solution of quinine hydrochloride was placed on the tongue of the observer:

Unpleasant. (The taste) developed very slowly and increased in unpleasantness and then as it got well back over the tongue, became more distinct and less unpleasant, possibly due to associations.

The observer recognized quinine which he favoured as a tonic, and it is to the pleasant feeling-element of this idea of the tonic to which he referred. A number of other examples could be given here, but these suffice.

(a) (2) Transference of the feeling-element of an idea to a sensation: an unpleasant idea making a sensation unpleasant. Experiment W. 147. The stimulus was a square piece of coloured paper, yellowish:

...I became aware of wavy horizontal lines in the middle of the paper. I thought these were caused by reflections. At first they were unpleasant. There was present in connection with them a vague idea (possibly accompanied by an equally vague image) of a human face with white unhealthy lines disfiguring the skin.

Experiment X. 44: A strip of sandpaper was gently rubbed over the dorsum of one of the subject's hands:

...at first pleasant, but became unpleasant very quickly: not very unpleasant, but a decided change took place. Associations were excited, scraping of the body, etc. This brought with it slight unpleasantness.

(a) (3) Transference of the feeling-element of an image to a sensation: a pleasant image making a sensation pleasant. Experiment Y. 128. The visual stimulus was a coloured square:

At first the visual sensation seemed to have no feeling-tone at all... Then I had a faint image which is usually called up by this colour and which is distinctly pleasant, and from that on the visual sensation was pleasant even after the image had disappeared.

(a) (4) Transference of the feeling-tone of an image to a sensation:

an unpleasant image making a sensation unpleasant. Experiment Y. 38. The stimulus was given by a Galton whistle blown with the mouth:

The feeling-tone... was at first slightly pleasant and then changed to unpleasant. The change to unpleasantness was brought about by visual imagery (a child crying).

Experiment Y. 116. Stimulus an orange coloured paper:

The stimulus was neutral until a vivid image arose (sunrise). No words but, as before, the whole picture meant 'another hot day.' The image was unpleasant and immediately it arose the colour became unpleasant too.

(b) Transference of the feeling-element of a sensation to an idea or an image. Experiment X. 73. An olfactory stimulus:

After the stimulus had been removed I had an idea of the act of smelling, and this idea had none of the olfactory quality of the original experience, but it retained the feeling-tone that had accompanied the sensation.

(c) Transference of the feeling-element of one sensation to another sensation. Experiment X. 114. The tone of a tuning fork and a colour were given simultaneously as stimuli:

Generally the agreeableness of the auditory stimulus was so great, that it masked the feeling-tone of the visual sensation; so much so that at one time I was tempted to think the latter had become agreeable.

(d) Transference of the feeling-element of an emotional process to a sensation. Experiment X. 39. The olfactory stimuli were asafoetida given twice: first of weak intensity and short duration, and then of stronger intensity and longer duration:

Both unpleasant. In comparing the unpleasantnesses I found it difficult to say that the second and intenser stimulation was in quality much more unpleasant than the first, but it excited a stronger reflex, a compulsive reflex. This is liable to be interpreted as a greater unpleasantness. The reaction to the second stimulus was made up of unpleasant feeling and bodily aversion, bodily withdrawal and moments of disgust, whereas in the first stimulus there was much less of the bodily effects. The total of second feeling-tone is greater, but how much of this is due to the sensation I cannot say.

The example of the khaki colour given above under (a, 1) would also serve here as an illustration.

These are a few examples taken at random and many more are given in the published monograph of the research. The conclusions that can be drawn from the above examples and the others of the monograph I combined in the following 'Rule 49'¹.

The predominant feeling-element in an emotional process, or the feeling-element of one cognitive process may induce a like feeling-element in another cognitive process, occurring about the same time.

This 'rule' is based on thirty-five statements made in the protocols of this investigation.

The principle expressed in this rule, I wrote then, ... is an important and constantly recurring factor in our daily life. I think, *e.g.* that it contributes more actively

¹ *Loc. cit.* pp. 242 sqq.

than anything else to the fact that even the most ugly fashions in women appear, after a very short time, quite attractive to men. The crinoline is probably too distant in time for most of my readers, but many will doubtless remember the bustle or tournure and the concertina or leg of mutton sleeve, and how soon their repulsive unsightliness changed into pleasant attraction which was possibly mistaken by some for an aesthetic emotion. The eternal feminine remains always attractive and pleasant—this is a biological necessity—and the pleasure is soon transferred to the most hideous devices that can be imagined by women to disfigure themselves or hide their gracefulness.

To be more general: a consequence of the fact expressed in the above 'rule' is that if a cognitive experience *A* is invested with, or accompanied by, an emotional process with a pronounced feeling-tone and is also accompanied by another cognitive experience *B* with no feeling-tone or a feeling-tone of the same or of the opposite kind, but of less intensity, then, on subsequent occasions, when a cognitive experience *B'* occurs, the predominant feeling-tone, or the emotional process, of the conjoint experience of *A* and *B* is likely to be aroused again. Let the sign + indicate one feeling-tone and the sign - the opposite feeling-tone, and let the number of these signs indicate the intensities of the feeling-tones, then we have on a 'first occasion' (*A* + + + ... +, *B* -), and on a 'subsequent occasion' *B'* + + +.

The oftener the 'first occasion' is repeated and the greater the intensity of the feeling-tone of *A*, the greater will be the feeling-tone of *B* on the 'subsequent occasion.'

It is hardly necessary to point out that the experimentally established fact which I have called "transference of feeling" has nothing whatever in common with the Freudian "transference or displacement of an affect."

III.

The rule just quoted from my research on the feeling-elements I shall now employ in the elucidation of the 'synthesis' of an incipient neurosis or phobia.

During the whole duration of the war I stayed in London, and did not miss one of the many air-raids to which we were unfortunately subjected. Especially during the year 1917 and the early part of 1918 they were particularly frequent and I do not think that we were ever spared during any of the periods of quiet moon-light nights. Rainy and stormy nights during the waxing and waning of the moon were welcomed by Londoners as a special intervention of providence and the still and quiet nights, when the gentle moon was shedding her floods of silvery light over the peaceful housetops of London, gave rise to dreadful suspense and anxious anticipation. "We'll have them over again to-night,"

used on such nights to be the observation accompanying the usual exchange of greetings, instead of the formerly customary remarks about the weather. And so the weary weeks wore on until the period before and after the new moon gave a short spell of relief, when the cycle of suspense and anxiety began afresh.

It must have been during the latter half of 1919 that I began to notice a sort of restlessness and incipient anxiety taking hold of me during bright moon-light nights and the emotional disturbance seemed the greater the quieter and more peaceful was the scene. The soothing grandeur of the full moon, I became aware, was no more, the restful ecstasy was gone. It did not take me very long to discover the cause of this change, for the associations with the air-raids were still fresh and the air-raids had been experiences too important and too numerous to be forgotten, that is, no longer to be thought of. But the fact of this knowledge did not appear to make any great difference at first, it was only by degrees that moon-light scenes regained their pristine beauty and impressive sublimity. All unpleasure has by now disappeared from the perception of the disc of the moon, but when memory-images or thoughts of air-raids crowd in by association these still possess an unpleasant feeling-tone. Had I not been trained in self-observation and had I been hereditarily more predisposed, it is quite possible that this incipient nervousness, which was nipped in the bud, might have developed into a full blown anxiety neurosis or a phobia.

IV.

The important point which is brought out by the two preceding paragraphs is this. Looked at from the 'synthetic' angle and in the light of 'Rule 49,' how simple, scientifically sound, and free from all mysticism and mythology does the whole occurrence appear, and how mystic, cabalistic, and occult it becomes in the hands of the so-called 'New Psychology'¹.

Take, for instance, Rivers' case of claustrophobia². The case was that of a medical man, who from childhood had suffered from a dread of being in an enclosed space, and especially of being under conditions which would interfere with his speedy escape into the open. When Rivers

¹ It may perhaps be advisable to mention here that my research was finished by the beginning of 1917. It is, therefore, probable that my knowledge of 'Rule 49' has helped me to discover the connection between my incipient phobia and the air-raids, but not *vice versa*.

² W. H. R. Rivers, *Instinct and the Unconscious*, Cambridge University Press, 1920, Appendix II.

met him first the patient's earliest memory of the dread went back to the time when at the age of six he slept with his elder brother in what is known in Scotland as a box-bed. Before coming under Rivers' care the patient had been treated by a follower of Freud, but with no result. By telling the patient that his phobia was probably due to some forgotten experience, and causing him to concentrate his thoughts in that direction and by making him record his dreams, Rivers was at last able to revive the memory of an incident which occurred at the age of four. This was a visit to an old rag-and-bone merchant when the boy found himself in a dark passage with its door shut which he could not open and the exit at the other end barred by a growling dog.

Discussing the theoretical aspect of the case Rivers says:

What is needed here is some definite explanation of the process by which the acute and fully conscious terror of the child became converted into forgotten experience which was only restored to manifest consciousness after many years. What can have been the nature of the process by which the fully conscious and vivid terror of the infant of four was converted into something unknown and unsuspected, working in subterranean fashion to reproduce a vague state of dread or terror whenever the patient was exposed to conditions similar to those of his infantile experience?¹

What is easier of explanation? Where is "a fully conscious and vivid terror converted into something unknown and unsuspected working in a subterranean fashion"? The boy described by Rivers was in a narrow passage and his exit barred by a growling dog. He was terror-stricken until eventually released. The whole situation was highly unpleasant and gave rise to the emotion of fear. When later the situation was partly reinstated, that is when the patient was in an enclosed space, the fact of being in an enclosed space, or even the mere thought of an enclosed space had acquired, according to 'Rule 49,' the unpleasant feeling-tone with tendency to anxiety, or an incipient emotion of fear. There was no necessity to ekphore ever again the incident of the dog and the dark passage, which incident, being once terminated, had, *quâ* incident, no more importance for the boy than the breaking of a cup or the loss of a pocket-knife, probably less. The tracing of the association of fear with enclosed space to the incident in the dark passage with the dog had simply the effect of giving the patient an intelligent understanding of his case which cured him. This may be looked upon as pithiatism, or suggestion, or re-education. There is absolutely no necessity whatever for having recourse to such fanciful inventions as 'repression' or the 'unconscious,' and such like².

¹ *Loc. cit.* pp. 180 sqq.

² It has been suggested that the incident of the boy's visits to the rag-and-bone merchant had not been merely forgotten on account of their triviality, but the memory of them had

That the tracing of a phobia, or of an anxiety state, back to its formation does not, however, *ipso facto*, cure the neurosis is evidenced by Pierre Janet's well-known case of Marie¹. Here it had to be suggested to the patient that all the discovered pathogenic incidents happened differently from the way they really did occur.

The difference in the results of the discovery of the forgotten pathogenic experiences in Pierre Janet's and Rivers' cases emphasizes the untenability of the 'New Psychology' view and confirms my contention. The different levels of culture and intelligence of the two patients accounts for the different effects. Rivers' patient, a cultured and intelligent physician, could be re-educated by the knowledge, but not so Pierre Janet's patient who was a dull ignorant peasant-girl.

A great deal of this obfuscation is due, I believe, to loose terminology. The tracing of the stigma to its source is spoken of wrongly, as we have seen, as 'analysis.' But an analysis must be an analysis of something, we must analyse something, and in pops at once the 'unconscious,' the *asylum ignorantiae* of psycho-analytic speculation.

V.

I did not intend in this paper to touch upon the question of 'Repression,' as I am discussing it in another paper. It having, however, been raised in discussion and being, I believe, advanced as a quasi-proof of the existence of the 'Unconscious,' to which I shall revert presently, it is as well to say a few words about it. I am, of course, referring here only to 'Repression' as asserted by the so-called 'New Psychology'; an unconscious, *i.e.* not knowingly intended, forcible prevention of an idea, or train of ideas, from becoming conscious, because this would be productive of unpleasure. The case of Rivers' patient just discussed is an instance of the alleged repression of a 'complex' and so is that of Ross' patient. Ross says²:

... I was face to face with the fact of repression in the Freudian sense of the word, and there seemed to be no escape from its overwhelming causal importance. ... I refer to anxiety states in which the symptoms seemed to appear as the distorted form of a repressed complex. For example, a patient would feel uncomfortable when he heard an electric train, he could give no reason for this until it transpired by the

been 'repressed,' because the boy had been conscious that he was committing a sin in disobeying the order of his parents. Apart from seeming rather far-fetched I can find no indication of such disobedience in Rivers' account.

¹ Pierre Janet, *L'Automatisme psychologique*, Paris, 1889, pp. 463 seq.

² T. A. Ross, "Some points about Repression," *Proceedings of the Royal Society of Medicine*, 1922, vol. xv (Section of Psychiatry), pp. 31.

method of free association that the sound of a car resembled that of a distant shell. This carried him back to some experience where he had been either ashamed or terrified, and which he had repressed, so it seemed, because his behaviour in it was in conflict with the high ideals of his personality.

As the author says "so it seemed" I take it that he wishes merely to make the suggestion in order to find a reason for the 'repression.' This case of Ross' is on all fours with Rivers' and is fully 'explained' by 'Rule 49,' *i.e.* by known and independently ascertained laws. There is no necessity to invent an unknown and unverifiable function, *viz.* repression, and assume still further a likewise unknown and unverifiable reason for it, *viz.* the conflict.

There is, however, another class of cases where, it is asserted, and apparently quite rightly, 'Rule 49' does not apply. Ross' dream is an instance of this. Ross writes¹:

In the winter of 1917-18 I dreamt that I was in a railway station; there was a half-empty train, on to which we were not allowed because there had been an accident in the tunnel. I offered two shillings to a fat-faced boy in the crowd to get what I wanted, but it was no use.

Ross could trace all the ingredient parts of the dream, the two shillings, the half-empty train on which he was not allowed and the accident in the tunnel, but he could not trace the fat-faced boy which appeared to him the clearest thing in the dream. "I recognised his face as very familiar but I could not place him," says Ross, although he tried his best. Three days later he came across him in the wards, and he adds,

immediately the meaning of the dream became plain. He was a patient with whom I had a lot to do. On the Saturday before I went out, I had an interview with him in which I had lost my temper and been very rude. He turned to me and said with a very sweet smile, "You know, Sir, I am little more than a child." This had made me ashamed of myself and I had solved the problem promptly by extremely thorough repression... the point to be emphasized now is the total suppression of the recognition of the very excellent photograph which the dream showed to me.

Here is no induction of feeling in a concomitant experience as is dealt with in 'Rule 49,' so that 'repression' in this case cannot be explained as in the other cases and the problem has to be attacked from another side. Let me examine whether Ross' reasoning in this instance has been rigorously scientific.

To begin with, we may classify our cognitive experiences into

- (a) those *with* unpleasant feelings,
- (b) those *not* with unpleasant feelings.

Such a classification by dichotomy is simple and exhaustive.

The facts of the case are these: (1) Ross did not recognise a dream face; (2) it was found that it had some unpleasant experience connected

¹ *Loc. cit.* p. 35.

with it. From these it is inferred that the face was 'repressed.' The case then belongs to class (a) above, namely that of experiences with unpleasant feelings, and it is only such experiences that can be repressed; for, by definition, repression is "the keeping from consciousness of mental processes that would be painful to it." Known, however, is only the inability to recognize or to remember, the 'repression' is but inference. This inference of 'repression' is, so it is averred, necessary to satisfy the desire for a working hypothesis. Now such inference would be logically correct, and therefore scientific, if the 'repression' occurred invariably with cases of class (a) and never with cases of class (b), that is if *all* unpleasant experiences were forgotten and *no* pleasant ones. The more we recede from the universal affirmative in class (a), and from the universal negative in class (b) the smaller becomes the probability of our inference being valid. Now the experimental evidence is decidedly against this. In my investigation upon the influence of feeling on memory¹ I worked with nearly 700 children from whom I obtained over 10,000 answers, so my sampling-error could not have been great. Working out the percentages for each child separately and taking the arithmetic mean I found that:

37.5 per cent. pleasant experiences were forgotten,
 against 33.8 per cent. unpleasant experiences forgotten,
 i.e. 4.2 per cent. more pleasant experiences were forgotten than unpleasant ones. It would, however, be rash to conclude from this that unpleasant experiences are more easily remembered than pleasant for there is a large M. V. which from the nature of the case is to be expected; for if a child recorded at the first test only *one* unpleasant experience which happened repeatedly and she did not reproduce this at the second, she forgot 100 per cent., or if she remembered it she remembered 100 per cent. We may, however, I think quite safely conclude that *there is no difference whatever between the two feeling-tones, pleasure and unpleasure, in their influence upon memory.* The correctness of this conclusion is confirmed if the whole of the results are pooled, then the individual differences tend to cancel one another, no M. V. is to be calculated, and we get practically identical percentages, viz. 40.1 per cent. for pleasant experiences forgotten and 39.8 per cent. for unpleasant experiences forgotten.

If we turn from the experimental evidence to that of everyday life the correct scientific procedure would be to note down conscientiously

¹ Vide this *Journal*, General Section, 1923, XIII, 405-16. I shall be dealing with the question again in another paper.

all cases of forgetting or failure of recognition, and if this is done I feel quite confident that these results will confirm the experimental results. What happened to Ross, namely to fail to recognize a face, has happened to me over and over again. I met a person who appeared familiar to me yet I was unable to say when and where I had seen him or her, until some time later I met the person again either in the British Museum, or in a railway train, or a restaurant, and then remembered that I had seen him or her there ever so often. And all these persons were absolutely indifferent to me and I could never think of associations which connected them with something unpleasant. Here is a case which happened to me about eight months ago. While on a country walk I interfered in a dog-fight and my hands were severely mauled, among other injuries the tip of my little finger of the right hand being bitten clean off. A gentleman seeing my distress took me in his motor car to the nearest doctor about a mile away. Whether I should have been able to walk the distance is more than doubtful and I was very grateful to him for his kindness. About a fortnight later I met him again. We were walking in opposite directions and as we approached each other I recognized him as having seen him somewhere, but could not make out when and where. When we were close together he saluted me and enquired about my hands which were still bandaged. I then connected him with the dog-fight, but thought that he was the man who came to my help and assisted me in separating the brutes. Why did I fail to recognize him? There was no reason for 'repression.' He rendered me a signal service for which I entertained the most grateful thoughts towards him.

On the other hand I could quote several cases, most distressing to the person concerned yet without any of this 'repression.' One single case must, however, suffice. A member of my household when a girl of about nine years of age, *i.e.* nearly thirty years ago, met on her way home a playmate of hers, a boy of about the same age. They walked together and when passing a fruiterer's shop the boy asked playfully whether she would like to see him steal an orange. The girl, out of mere devilry, goaded the boy, telling him that he had not the pluck to do it. As a consequence the boy did steal the orange and the children ran away. Then the girl turned round and abused the boy, calling him a vulgar thief with whom she would have nothing further to do. When she reached home she was smitten with remorse and shame, not only for having egged the boy on, but also for turning upon him after having incited him. It continued to cause her much distress and she never spoke of it to anybody at home. There was no 'repression' here!

What we have come to then is this. We have

- (1) pleasant cases that are forgotten,
- (2) unpleasant cases that are not forgotten,
- (3) unpleasant cases that are forgotten,

and we choose to speak only of the last class as 'repression,' whilst surely there is no reason for assuming that the mechanism in (3) is different from that in (1). We are merely arguing in a circle: instead of *showing* that unpleasant memories *are* repressed, we *call* such forgotten unpleasant memories 'repressed.'

VI.

I may perhaps be allowed to add here a few words upon the much contended subject of the 'unconscious,' because Rivers waxes sarcastic when discussing it in connection with his case of claustrophobia, and I apparently have dismissed it too summarily in my recent criticism of psycho-analysis¹.

I do not think that there can be a psychologist who would deny the great and, in my opinion, still too much undervalued influence of ancestral experience upon the individual. The enunciation of Ewald Hering's principle that "Memory is a function of all organized matter" has rendered as great a service to psychology, among other sciences, as the teachings of Freud have tended to harm and retard that science².

Rivers discussing the subject says:

According to the more generally accepted usage this vast body of unconscious experience is not thought of as a whole in psychological terms. There are, however, certain elements in this ancestral experience which psychologists have singled out from the rest and have termed instincts, and they are agreed in holding that they form part of the subject-matter of psychology. If such unconscious elements derived from ancestral experience are by universal assent included within the scope of the mind, it is difficult to understand how it is possible to exclude unconscious experience acquired in the life-time of the individual. It would be humorous, if it were not pathetic, that many who object most strongly to Freud's views concerning the rôle of unconscious individual experience in the production of abnormal bodily and mental states should be loudest in the appreciation of the part taken by the ancestral experience for which they use the term, too often the shibboleth, heredity³.

I avow myself to belong to those against whom Rivers here inveighs, and it strikes me as very pathetic indeed that a man like Rivers should fail to notice the complete unlikeness between the ancestral and indi-

¹ A. Wohlgemuth, *A Critical examination of psycho-analysis*, London, 1923, Allen and Unwin.

² I must assume here an acquaintance with this subject or else refer the reader to the writings of Ewald Hering, Samuel Butler, Richard Semon, Eugenio Rignano and others.

³ *Loc. cit.* p. 161.

vidual 'unconscious experience' on the one hand and Freud's 'unconscious' on the other.

The individual begins life with the inheritance of, I will not say the sum-total of the individual experiences of his ancestors, because there may be experiences which tend to or do modify, neutralize, or obliterate, other experiences, but I will say he begins life with the inheritance of the resultant of the experiences of his ancestors. Now if we want to include these by universal assent within the scope of mind, I have no objection to speaking of this inheritance as the 'unconscious ancestral mind,' but—and it is here that Rivers goes astray—let us make sure what is this 'unconscious ancestral mind.' What is inherited are certain somatic (this includes neural) dispositions to react to certain stimuli in a definite manner. These somatic reactions may affect certain parts of the nervous system and thus give rise to somatic sensations and emotional disturbances, to feelings and conations. Somatic sensations are now generally regarded as cognitive and these are the only cognitive elements (and, as is obvious, they are produced indirectly) which these somatic dispositions can engender. They can give rise directly only to feelings (pleasure—unpleasure) and conations, and these it is which are termed instincts. Freud's 'unconscious' consists, however, essentially of thoughts, ideas, desires, the two first ones entirely cognitive and the last cognitive and conative. Therefore the 'unconscious ancestral mind' has nothing in common with Freud's 'unconscious' from which it differs *toto coelo*.

The individual then beginning life with this 'unconscious ancestral mind,' is acted upon by his environment to which he reacts somatically and psychically, these reactions depending, as we have seen, partly upon the transmitted 'unconscious ancestral mind.' As the myelination of the association-areas of his neopallium proceeds, the reactions, especially the psychic reactions, become more and more complex and the somatic reactions more precise and circumscribed. The impressions, or I think it would be more correct to say the reactions, of the individual to these impressions, constitute his individual experience and leave behind marks, or traces, spoken of as 'engrams.' These are dispositions to react in a similar manner to similar stimuli, reactions themselves serving as stimuli to other reactions. This is spoken of as the 'Principle of Association.' Now if this accumulation of engrams which constitutes Rivers' "unconscious experience acquired in the life-time of the individual" is to be called the 'unconscious individual mind,' it may seem to be merely a question of terminology; but such usage is, as we have seen, alas,

fraught with such immense danger that we should hesitate to accede to it. The point has been admirably stated by Freud's colleague Joseph Breuer:

All too easily one gets into the habit of thought of assuming behind a substantive a substance, of gradually understanding by consciousness an entity. If then one has got used to employing local relations metaphorically as, e.g. 'subconscious,' as time goes on an idea will actually develop in which the metaphor has been forgotten, and which is as easily manipulated as a material thing. Then mythology is complete¹.

Breuer recognized the slippery slope down which Freud rushed away from scientific fact, and called a warning halt, but, alas, too late.

¹ Breuer and Freud, *Studien über Hysterie*, 2te Aufl. Leipzig and Wien, 1909, p. 199.

A METHOD OF SELF-ANALYSIS

By E. PICKWORTH FARROW.

INTRODUCTION.

It may be interesting to give an exact description of a method of self-analysis adopted by the writer which has enabled him to recollect (and recover from the ill-effects of) a large number of former repressions and complexes in his mind. He was formerly entirely unaware of the existence of these complexes and would probably have denied their existence. These complexes included a very bad castration complex dating back to between the third and fourth year of life¹ and a very early incident closely associated with the weaning process—the latter dating back to the age of eleven months². He has also subsequently recollected and removed most of his Œdipus complex by this process and feels much better in health as a result. The earliest incident recollected so far through following this method goes back to about the age of six months, and an account of this is about to be published³. The fact that it has proved possible ultimately to remember such a very early occurrence as this is a striking proof of the efficacy of this process.

He has since found that the method of self-analysis described herein is very similar to the method employed by Prof. Freud on himself a number of years ago—in particular that Prof. Freud devoted attention only to the most insistent *conscious* thought at any moment; though previously the writer had had experience of two analysts whose methods differed very markedly from the true Freudian ones—particularly in regard to this point of always keeping to the surface of consciousness⁴.

Although other people have worked at rather similar methods of self-analysis, some of the points mentioned in the following paper may be new, for the writer thought of the particular method described and did the work entirely by himself, following it solely because he found a note-writing method beneficial while he was with the two analysts, and little thinking that the method of devoting attention solely to the most insistent conscious thought at any given moment was the proper method to follow.

¹ See the *International Journal of Psycho-Analysis*, January, 1925.

² See *The Medical Press*, April 29th, 1925.

³ See a forthcoming issue of the *Internationale Zeitschrift für Psychoanalyse*.

⁴ *Psyche*, January, 1925.

He found he was only able to follow the method at irregular intervals to commence with (about one hour per week), although he wished and intended to spend one hour a day at it. The chief cause of this irregularity was that a certain rather worrying matter had persisted throughout both his previous periods of analysis, had held up the results considerably, and had still retained most of its effects. He was consciously reminded of this particular matter each time he intended to continue the note-writing method, and thus tended to put the latter off. This, in passing, seems to the writer to be one of the chief advantages of analysis by an analyst—one *has* to attend for a fixed hour each day unless one chooses to throw one's money away, which, of course, nobody likes to do.

Every time that he did actually succeed in sitting down and re-starting again at the note-writing method, however, he found that he could easily keep on for an hour or two. In fact, he wanted to keep on as long as possible, and the difficulty was to leave off, each of these periods producing a feeling of mental relief.

Mr A. G. Tansley had pointed out to the writer that the chief difference between note-writing and analysis as ordinarily understood lies, of course, in the impossibility of a transference in the former case. The writer had thought of this point and feared that it would render it impossible to obtain such good results with self-analysis as with an analyst.

It quickly appeared to him, however, that a transference was apparently unnecessary in his own case. He quickly obtained excellent and permanent therapeutic results by this method, and considers that it would have been difficult, if not impossible, to have obtained such results in the same time with some analysts. In any case, the therapeutic and scientific results far transcended those obtained with his two analysts, and they were obtained in far shorter time. The writer feels sure that he can promise most beneficial and interesting analytical results to any unanalysed person who will only be determined and persistent enough to follow the method described below.

After about five one hour periods of note-writing, taken at irregular intervals as described above, the effects of the worrying matter referred to, which had persisted throughout and had interfered with all the previous analytical work, disappeared almost entirely, and the writer found that he could sit down to the note-writing at prearranged times without much difficulty, or whenever he wished to, or whenever nothing else genuinely interfered, and the analytical work proceeded apace.

DESCRIPTION OF THE METHOD.

As hinted above, the chief thing is that anybody wishing to work at this method should arrange to set a definite period apart for it each day—preferably in the evening when things are quiet and when one is most likely to be free from any interruptions—and to try his very best to stick absolutely to these times, and to reserve them entirely for this purpose, as if one had appointments with an analyst at a considerable fee for each hour.

The next thing to do is to provide oneself with a large and ample supply of best quality smooth writing paper and with a pen (preferably a fountain pen) of the kind with which one can write most easily and quickly. It is well to procure a very large supply of the good quality paper in order that the resistances may not have the excuse of the possibility of running out of paper if the method is persisted in, or if one writes too quickly or works at it too often. Also one may try to foster the idea that the paper may be wasted if the method is not persisted in.

On feeling able to keep an 'appointment' with the note-writing method, sit down under the described conditions of quiet and likelihood of freedom from interruptions with the blank paper in front of one, and pen in hand. The method now to be followed is—*write down on the paper whatever comes into one's conscious mind at any given instant*—and this, in fact, is the great key of the method. If it occurs to one that this method is silly—write this down. If it occurs to one that it is a waste of time—write this down. If it occurs that one would like to be deeply analysed and wonders if one has some particular complex, but is quite sure that this method will never discover it—very well, write this down.

Some apparently quite irrelevant memory may then occur—write it down. One's thoughts may then turn to some particular dream—write down what occurs to one about the dream. Suddenly, and for no apparent reason, one's thoughts leave the dream and go on to some entirely different subject—very well, leave the dream and write down what occurs to one about this entirely different subject; and then write down whatever occurs to one after that. In short, write down on the paper whatever occurs to one's conscious mind from second to second during the analytical period—no matter how absurd, irrelevant, unpleasant, never-thought-of, improper, disrespectful of the method, or utterly mad it may seem to be—write it down on the paper as fast as one can from moment to moment.

When the writer was comparatively a beginner at this method, it

happened several times that a memory occurred to him, going back quite a long way and with many details, and yet, before he could write down nearly all these details, some other thought or thoughts would come flitting insistently in his mind. This bothered him for the first few times, for, being anxious to get analysed as deeply as possible as quickly as he could, he was anxious to pursue and write down the memory in question as far back as he could. After trying to do this on several occasions and ignoring the intruding thoughts, he reverted to the method of writing down and continuing the intruding thoughts (*i.e.* of writing down whatever was most insistent in his mind from moment to moment), and left the memory and its details entirely for the time being. Subsequently he always followed the latter method, for he quickly found by experience how remarkable it was that the remaining and deeper portions of the memory which had been temporarily ignored or passed over, always came up again eventually and usually quite quickly. Not only this, but when this latter method was followed the remaining portions of the memory, when they did come up, came up with large quantities of particular additional associations of their own which would not have been obtained if the remaining portions of the memory had been followed in a forced manner, in the first place, by ignoring the intruding thoughts. Also that these particular additional associations enabled him to penetrate deeper than the first memory, whereas if the latter had been pursued in a forced manner by the exclusion of everything else, this progress might have been temporarily held up.

Many times on various days and nights during the period when he was doing note-writing in the evenings, apparently important particular thoughts would occur to him and he would think at the time, "By Jove, I must write that down during the next note-writing period." When he came to the latter, however, he always found that, though he was aware that the particular thought in question was somewhere in his mind floating about in a semi-conscious state, he was then never able to write it down at starting, without overcoming enormous resistance. By that time he had, however, got into the way of only writing down his fully conscious thoughts from moment to moment, and then he would eventually find that the particular thought in question came up suddenly into full consciousness—apparently from nowhere—and was then written down automatically and with no effort whatever. When this happened, he was very much interested to notice how extremely appropriate the associations written down immediately were to the particular thought in question, and that the connections of these immediately foregoing

associations with the particular thought were far cleverer than he could ever have thought of consciously.

The immediately foregoing thoughts frequently seemed to be of the nature of cover-memories for the subsequent particular thoughts, preventing the latter from reaching full consciousness until they were written down, cleared off, and removed. In fact the writer was very much surprised to notice, during the progress of the note-writing analysis, the extent to which many of the memories of his childhood, which he had previously regarded as quite passive, seemed to be actually cover-memories for other particular incidents which had various kinds of emotional associations.

The writer found that when any particular seemingly important recollection was eventually reached and written down by the process of writing down only what he was thinking of, and fully conscious of, at any moment the emotion formerly associated with this particular recollection tended to disappear, and the recollection eventually tended not to recur again. In several instances the same subject seemed to recur several times, but only in a successively milder and milder form; but, in these cases, the writer suspects that the subject was not reached the first time solely by free-associations, but was partly forced.

This seems to have been the cause of the difference between the therapeutic effect of the notes which the writer made as described in this paper, and that of the notes which he made while with the first analyst¹. In the case of the notes made while with the first analyst, the actual note-writing seemed to have little therapeutic effect in itself, but when the notes had been fully discussed with the analyst, a great therapeutic effect was obtained. The latter notes were not made by the process of free-associations, however, but were made often hurriedly, and also sometimes partly in the fear that he might run short of material for discussion during the analytical hour. They were thus rather, or perhaps very, forced and were not free-associations, but needed full discussion with the analyst before the process of free-association on them could be started.

The writer now knows that the fear of running short of material for discussion during an analytical hour arises solely through repressions; and, owing to these, one may fear that one's mind may become apparently a blank and one may fear the resulting apparent waste of time. As a matter of fact he is now convinced that one's mind is never a blank, but is always thinking of something, though one may not be fully aware of this, or of what it is thinking about, at any given time, or moment.

¹ See *Psyche*, January, 1925.

During the note-writing method also one's mind may become apparently a blank. In this case write down, "My mind is now a blank." After writing down this, the writer always found that something or other immediately came into his mind, which he then proceeded to write down. In this way, unpleasant material is approached gradually and by means of a very large number of free-associations with only gradual release of emotion. The large number of associations appears to contribute to the permanence of the beneficial results.

It might be thought that the possibility of a greater number of associations in reaching the repressed material would mean that note-writing would entail a greater time than analysis by an analyst; but the writer found the opposite to be the case. He found that he could write down material which was very unpleasant to him so very much more easily and quickly in the first place by himself than he could tell it to an analyst; but that when it had reached the stage of full consciousness by the method of free-associations sufficiently to be once written down in its proper order, then, after this, he would not mind telling it to anybody. Nevertheless he found it advisable and necessary to keep the notes already written locked up while he was continuing writing, in order to be sure that they were kept from other people's eyes and thus to avoid any unnecessary additional repression against further writing. It is also advisable to keep the notes already written locked up in order to feel that they are safely stored, and are actually in one's possession for a time (and can be read again if one desires to do so), while any remaining trace of affect associated with the particular material dealt with in them becomes worked off in daily life.

The writer determined to try dictating free-associations to an electric recording and dictating machine in the hope that this method might work equally as well as writing out the free-associations, and that much labour and time spent in writing might thus be saved. However, after dictating for a quarter of an hour or so to this machine, he found that this method was not having any therapeutic effect whatever or relieving his mind at all, so he gave it up. He also found far more difficulty in dictating actual words to the machine than in the note-writing of similar material owing to a partly unconscious feeling that "even walls have ears." All the material dictated to the machine came up again in note-writing immediately afterwards; which meant that the other method had not worked, and that the affect associated with this material had not been cleared off his mind by it, and apparently he might as well have dictated to a pillow, or to his desk, as to the machine.

The cause of the entirely different psychological effect of the two methods would be very interesting to find out and the writer thinks it probably arises as follows. He had noticed that he sometimes automatically wrote in his notes, for example, "Now your mind is trying to avoid something," instead of, as might have been expected, "Now *my* mind is trying to avoid something," and the automatic employment of the second person pronoun rather indicated to him the possibility that much of the effect of the presence of a second person may be actually introduced during the whole time when free-associations are being actually written down. It seems possible to the writer that the actual viewing of the notes which he has just written down may bring actually home to the fully conscious mind of a person the current of his thoughts in a very much clearer form than they were before; or, in other words, that the process of note-writing may be very similar to dictating *to oneself*, with oneself actually acting as a personal analyst; and if this be so, it may explain the remarkably and entirely different psychological effects of writing down free-associations on paper and of attempting to dictate them to an inanimate object such as a machine or a pillow.

When starting this note-writing method, possibly twenty or more recollections may flash through one's mind while one is writing down the first conscious thought which occurred to one; but no matter. If the first conscious thought has been written down exactly in the manner described it, anyhow, is apt to be done with, from this point of view, for ever. If the next thought to be written down is the next one most insistent in consciousness, this next thought will then be apt to be done with for ever; and the same with the next thought after that. Then only seventeen of the original twenty associations remain to be dealt with; and under these conditions and circumstances, a fresh or additional association is very apt to appear apparently from nowhere. The important thing is that this fresh association is apt to be something comparatively new, and one which would never have been thought of in consciousness again without the note-writing method having eliminated a few cover memories, and having run the mind comparatively short of them. The eighteen then existing associations gradually come up, and are written down as fully conscious thoughts, and eliminated, in odd turns, and along with much other associated (and apparently non-associated) material; and by that time, some repressions will probably have been unearthed, and an entirely new set of associations and cover-memories concealing other repressions will be present in the mind. These will gradually become eliminated in their turn and, with them, various addi-

tional repressions, releasing still other associations and cover-memories concealing still further and deeper repressions and complexes.

The method of free-association as described is very different from the method of 'introspection' which has been known and practised for centuries. Very little indeed or comparatively nothing can be done by introspection—it simply gives one a large quantity of cover-memories lying almost solely in the upper layers of the mind, and in a comparatively fixed condition, and all the underlying material remains permanently concealed. Simple introspection also may lead to worry, as one does not get behind or underneath the various points, or split them up and dissolve them, but simply runs up hard and repeatedly against the same rather sore subjects. Analysis as ordinarily understood, or self-analysis by the method described herein, is something quite different from introspection, enabling one to penetrate deeper and deeper still into one's mind and to split up and entirely dissolve all superficial worrying material.

Investigation of his own mind by this process is much the most interesting kind of scientific research which the writer has ever come across up to the present; but, until quite recently, he did not know the instrument or method required for this deep penetration of, and research into, his mind; but thought that any such process was quite impossible, and that his mind must necessarily and for ever remain a closed book to him—since it was fairly apparent to him that only such a comparatively very little could be done by the method of introspection—the only method which he knew. As already indicated simple introspection, too, is apt to injure one's health, whereas the analytic process, on the contrary, tends to clear away repressed worry and improves the health.

It is advisable to realise fully at the start the great difficulty of sitting down to note-writing analysis, and of being perfectly frank with one's conscious thoughts from moment to moment. One must not attempt to minimise this difficulty and the strength of the initial surface repressions, nor be discouraged if—like the writer—one is only able at the start to keep one one-hour 'appointment' each week with the note-writing method, instead of perhaps seven.

If, in spite of all this, one nevertheless does one's very best to stick at it, and at keeping the 'appointments,' or at working at the method whenever one can, fairly soon, some of the worst surface repressions will be overcome, one will find one's health and happiness improving, and get quite keen on the method, and on the interesting and beneficial results. The analytical work will then go on apace.

As indicated in the Introduction the writer kept on at the method of writing down his conscious thoughts from moment to moment at first simply because he found that it was continually clearing and relieving his mind—*i.e.* solely for the therapeutic results. He never thought that writing down only the thoughts most fully conscious at any time, and paying no particular or special attention whatever to dreams, for instance, would eventually lead to deep analytic results; in order to obtain the latter he thought that he ought to aim at paying attention chiefly to any *unconscious* thoughts which he might have. He now sees, however, that, on the contrary, the former method is right and the best for eventual scientific results, as well as for the clearing of one's mind, *i.e.* only pay attention to and write down the most fully conscious thoughts at any particular moment—if they happen to be about a dream or phantasy write them down—if they do not happen to be about a dream or phantasy, don't worry, but just write them down whatever they are about, *and keep on writing down one's fully conscious thoughts from moment to moment as well and as fast as one can during the analytical period, no matter how rapidly they may wander from subject to subject and no matter how foolish, absurd or irrelevant they may from time to time appear to be.*

The writer has heard that one of the chief disadvantages of analysis is the amount of the analyst's time taken, and the resulting expense, and the fact that there are far too few analysts to deal with the number of people who would probably be benefited by or interested in the process. It is very probable that a sound and experienced analyst would obtain results more quickly than they would be obtained by a note-writing method and that in many cases—where people lack determination—a personal analyst may be absolutely essential; but nevertheless the writer feels sure that, given persistence and determination, there is no reason why any mentally fairly healthy person should not become very deeply analysed—no matter how far away he may live from any analyst, nor how impossible or inconvenient it may be for him to visit a distant town for this purpose, nor how incapable he may be of affording the usual high cost of analysis. Persistency is all that is required.

The chief benefits the writer received in relation to self-analysis from the analysts were the breaking down of his initial resistances and a clear and conscious realisation of the fact that *none* whatever of his thoughts were really absurd or irrelevant (no matter how much they might appear to be so on the surface of the mind) and he has already emphasised the importance of these points as strongly as he could.

One great advantage of the method described is that people who think they would be shy of telling their intimate thoughts to another person need not do so; but can just write down these thoughts for themselves, and keep them locked up until they have worked off the feeling regarding them. The writer has already mentioned that the absence of the need of overcoming the resistance of telling each new intimate thought to an analyst, greatly quickened up the process in his case, enabling much more work to be done in the same time.

Another advantage is that one is free from the idiosyncrasies of particular individual analysts—such as the peculiarity of the writer's first analyst, who tried to hold him solely to the analysis of particular individual dreams for several days at a time—no matter how much his conscious thoughts might wander away from it—to his great mental confusion and irritation and the delaying of good results.

It will be found that the getting of a large number of thoughts written down and off one's mind renders the mind clearer, and that one subsequently does the things of greatest importance first in one's daily life more readily than previously when a certain amount of confusion and repression was in the mind. The process also reduces any nervousness which may be present by eventually dissipating the underlying repressed emotion. In this respect it is much better than experimenting with the psycho-galvanic reflex or the word-association test, for the latter processes only indicate the presence of emotion without removing it to any great extent. Nevertheless the removal of emotion is painful, and thus this method requires far greater determination than merely experimenting with the other processes.

One advantage of the results obtained by self-analysis is that they are necessarily free from the generally unfounded criticism—so common in England and America—that the analyst reads the results into the mind of his patient.

SOME PRELIMINARY RESULTS OBTAINED BY NOTE-WRITING ANALYSIS.

In addition to the deep therapeutic recollections from early childhood published in *The International Journal of Psycho-Analysis* and *The Medical Press*, already referred to, going back to the ages of 3½ years and 11 months respectively, it may be useful to give an account of one or two results obtained in the early stages of the work. This might assist other people to judge by analogy that the process was working properly in their own cases, and thus that they would probably ultimately remember incidents in their very early childhood by continuing

it. It must be remembered that the object of analysis is not the mere recollection of incidents, but the working off of painful emotion associated with unpleasant incidents. This removal of emotion cannot however be effected until the incidents in question are recollected: continued free-association usually suffices to bring about the other result.

Also the results are not obtained by conscious searching—anything of this nature would probably tend to put them in the background. They are gradually realised by the mind during the process of free-association when the thoughts are allowed to wander as much as they wish. They thus come up along with very many relevant, and apparently non-relevant, free-associations the therapeutic effect of which is far greater than that of the isolated specific results. Many of the results may seem to be pathological. However, if any unanalysed person examines his own mind carefully he will be surprised at the amount of pathological material which it contains and which would be better removed.

*Discovery of the Origin of an Interest in Antiques (cleared up
after 11 hours).*

For a number of years the writer had been interested and had collected antiques. He was only interested in those older than the usual maximum span of human life (*i.e.* about 80 or 100 years) so that the people who made them were certain to be dead. This interest in antiques was traced down in the course of free-associations to its earlier stages when it was confined to old oak chests such as are frequently seen in antique shops. These, he found, had represented coffins to his unconscious mind, and the interest in them had satisfied a repressed and unconscious partial death-wish caused by certain unhappy events which had occurred just before this interest in old chests developed. When the painful emotion associated with these unhappy events was eventually removed by free-association, the death-wish founded upon it disappeared, as also did the interest in old chests. Along with this the interest in antiques generally, *as* antiques, also vanished. The writer is now only interested in such objects if they possess some quality which appeals to him other than mere age. The former *desideratum* that the object must be older than the maximum span of human life is interesting in view of the fact that the objects were satisfying an unconscious death-wish. For years before the latter fact was discovered the writer had occasionally wondered what could be the explanation of the first fact.

Origin of an Interest in Astronomy (cleared up after 17 hours' work).

Ever since his schooldays the writer had been interested in astronomy and had purchased a small equatorial which he sometimes used for examining celestial objects. If anyone had asked him the cause of this interest he would have replied that it arose because he felt that it was the duty of any educated person to know something about the latest ideas concerning the universe in which we live. This rational explanation of the interest in this subject would certainly have been entirely erroneous however although it would have been given quite honestly. During the process of the free-associations this interest was traced back through the nursery rhyme, "Twinkle, twinkle little star," down to admiration of, and interest in, the white flower of a specimen of the plant "Star of Bethlehem" (*Ornithogalum umbellatum*) which grew and flowered for several years near a garden in the country which he used to tend when about 10 years old. The white flower of this plant certainly looked strikingly beautiful amongst the tall green grasses of the roadside; but undoubtedly his great interest in it, and the reason he remembered it, was because of the name "Star of Bethlehem." The free-associations then immediately passed on with undiminished interest to the "Star in the East" and the account of the birth of Christ as given in the New Testament. Undoubtedly his great specific interest in the "Star in the East," and ultimately in other stars generally, arose as a sublimated form of a very great repressed childhood interest in the stated facts concerning the birth of Christ which had also helped to solve the earlier problem of his own origin.

APPENDIX.

A Talking-to-Oneself Derivative of the Note-Writing Method.

As mentioned already, the writer tried dictating free-associations to an electric recording machine fairly early; but found that this process of dictation to an inanimate object apparently had no therapeutic effect and did not succeed in removing emotion from the material dealt with.

This was apparently largely due to a partly unconscious feeling that "even walls have ears" and to the spoken associations not being entirely free as a result of this. Also the dictation to the inanimate object did not have at all the same effect as the writing down of associations for oneself to see.

After about 120 hours of note-writing, however, he found that he had dealt with and completely removed the fears associated with the

feeling that "even walls have ears" and that, after this, he could then utter free-associations to himself in a quiet room, and that this process then had the same effect as the previous note-writing, in addition to being much quicker. For some time he used note-writing alternatively with the talking-to-oneself method in order to be quite sure of not missing any advantages which the note-writing might have; but subsequently he employed the talking-to-oneself method alone.

The writer is somewhat doubtful of the advisability of giving these facts in case anybody should feel tempted to start with a talking-to-oneself method straight away in view of the apparent saving in time by doing so. It is therefore advisable to state that it is probably absolutely necessary, when working alone, for anyone to commence with a note-writing method and to continue this process until all the existing fears against uttering thoughts have been completely removed.

A friend of the writer considered this difference interesting and thought that a lawyer, for example, would probably find stronger resistances in committing thoughts to paper than in merely uttering them. This is, however, probably not so. The writer eventually found that most of the resistance against uttering thoughts aloud in his own case came from unconscious repressed fears resulting from repressed memories of punishments, and fear of punishment, in early childhood. These had resulted through expressing one's opinion about various matters, asking questions, etc., too frankly, or without regard to the opinions of stronger adults, and were partly a result of the general attitude that "children should be seen and not heard." This has probably much to do with the origin of the Freudian 'censor'—*i.e.* a desire to avoid punishment. Note writing, however, unlike quiet speech, does not involve the possibility of 'being heard' and it is a very useful sort of back-door method of getting out these particular thoughts without encountering the unconscious resistances, founded upon the repressed fears, which the other method involves. It is a method which could not have been followed at the time of the original repressions, for most of the early infantile deterring punishments occur before one is able to write.

ABSTRACTS

Arch. Gen. di Neurologia, Psichiatria e Psicoanalisi, vol. VIII, 19 March, 1925.

In an article on *Sexual Symbolism in Mystic and Profane Dreams* Professor M. Levi Bianchini traces human symbolism from the earliest times of primitive humanity, dating it before spoken language.

"The Symbol, first element of the primitive mental evolution, is an engram, the direct object (or signification) of which more or less conceals a second and different object, or signification."

Primitive man formed his symbols from the limited objects of his acquaintance, and from the limited instincts of his earliest development. Psycho-analysis has demonstrated the fact that the dreamer reproduces this early symbolism unconsciously, and that it is reproduced by all dreamers, identical in form and in the hidden meaning. Many symbols may indicate one object, and *vice versa*:

(1) From imitative, analogical reasoning (imagination, fantasy).

(2) From the relative positions of the individual and his environment—physical, psychic, or mixed.

The author considers that the 'engrammatic sediment' of primitive symbolism is part of the reflex pattern of human cerebration, handed down unchanged from early times; and that as man develops he is also developing other forms of symbolism, on the same mechanism, especially with regard to moral and social conduct and the Ego Ideal. He ascribes the great preponderance of sexual symbols in dreams to the fact that during the Christian era sex was specially repressed in the waking life. Hunger (which otherwise would have manifested itself in equal degree) not being repressed, there was not the same necessity to escape the censorship by means of hunger symbols. The first love of man was carnal, and on the narrow and limited symbolism of this purely carnal emotion it has therefore been necessary to build the most exquisite poetry and refined spirituality. The love of God becomes a sublimation, but has always as a base the earthly conception of love and its consequent symbolism—carnal and material.

So psycho-analytic psychology appears as a true embryology of cerebration. The ontogenesis of human cerebration recapitulates the phylogenesis of the 'psychism' fixed during the evolution of preceding generations, and reproduces not only the engrams and archaic symbols, but also the instincts and complexes and modes of reaction by which it was determined.

He gives in detail, and minutely analyses, two dreams, one (described by herself in his 'Life') of an Ecstasy of Saint Theresa of Avila, at the age of 44, in 1559; the other from the analysis of a neurotic woman patient of the author's. In both the same symbolism appears in unmistakable form (confirmed by free association in the case of the patient)—the apparition of a youth with burning countenance, holding in his hand a dart or dagger, shining and tipped with fire (Eros with bow and arrow), with which he pursues the dreamer; with other symbols of an obviously erotic character.

Other visions of Saints and neurotic dreams of patients are described and compared, with analysis.

"‘Saint Theresa of Jesus’ is called the Holy Mother Theresa of Jesus, and founded the Order of the Carmelite Nuns. Of their mystical Union is born the new Order; thus reproducing the archaic mystery of the Trinity, human and divine; of the Sacred and profane families—father, mother and child."

"The ecstasy of Saint Theresa is therefore a sexual dream—that of defloration. It is not necessary to be a psycho-analyst to appreciate this on studying the facts without prejudice, for no human being, either Saint or unbeliever, materialist or dreamer of the sublime, can escape the force of what Schopenhauer defined as ‘The Genius of the Species’."

N. H. M. BURKE.

Psycho-Analysis and the Psychic Disorder of General Paralysis, by STEPHAN HOLLÓS and S. FERENCZI. Translated by GERTRUDE BARNES and GÜNTNER KEIL. First appeared as Beiheft Nr. 3 to *Internationaler Zeitschrift für Psycho-Analyse* under title "Zur Psychoanalyse der paralytischen Geistesstörung," 1923. Translation in *The Psycho-analytic Review*, XII, 1925, pp. 88–107 and 205–233.

The authors begin with a review of current theories of the psychic disorder in G. P. I. The delusions of grandeur have been attributed to over-nourishment of the cortex (Bayle); Weichbrodt attributes it to the toxins of the *Treponema pallida*; euphoria to central hyperaemia (Baillarger, Gubler, Meschede, Voisin, Meyhert and others); Krafft-Ebing, Sully and Aubon take the middle ground and say that paresis transforms perceptions into active phantasy productions—the sun rises because the patient wishes it to do so, etc., the confusion is due to the destruction of understanding of simple logical relationships. Kraepelin takes into account endogenous, constitutional, characterological, biological and psychical factors and originates a 'structural analysis'; Kretschmer speaks of diagnosis in more than one dimension, of a stratum diagnosis. Bonhoffer goes a stage further and refers to the difficulty in classifying psychoses owing to admixture of endogenous and exogenous symptoms; Neisser takes the contrary view and regards disease as a break with the past. Bumke makes a sharp differentiation between functional diseases which are psychologically intelligible and are related to the norm, and gross organic or exogenous diseases. According to Seelert the psychic individuality may influence the symptoms, a parietic with a manic constitutional complex develops mania easily, but as the organic disease increases the manic symptoms decrease owing to the defect caused by the brain lesions.

'Organic psychiatry' is unable to explain the psychic disorders. It remains to be seen what results follow from the employment of psycho-analytical interpretation in organic diseases; such interpretations will be a supplement to the problem of G. P. I. Bleuler in 1906 proved that 'Freudian mechanisms' existed even in organic psychoses, and Feldmann showed that even in the psychoses the fixation of libido development is important. In the attempt now made, Hollós and Ferenczi see whether some of the symptoms of paresis can be made intelligible by means of psycho-analysis.

The authors consider whether (1) the dementia, (2) the loss of memory, (3) the grandiose ideas, (4) the statement of numbers, are as arbitrary as they

appear, or whether these are not psychically determined. To begin with *numbers*: A case is quoted of a man who said he had lived 3 million 699 years and at one time had 3 million 695 radishes in him. He said he was 39 years in his mother, on another occasion 3990 years in his mother, and that 3 years after he fell out of her his reason returned to him. The authors note the special preference for the number 3 and its multiples, and compare the parietic's use of numbers with the neurotic's preferences for 'sacred' numbers.

The *delusions* are frequently found to be related to actual experiences: in the patient's case quoted he said that he wanted to cure lung diseases (his father and sister had died of tuberculosis, so the poverty in his home was associated with this disease); early on in the disease he phantasied playing on an electric flute and earning 4000 kr. daily, with which sum he bought sacks of food, chocolate, sardines, cheese and butter (before admission he had been a beggar and was in abject poverty); he wished to cure infective diseases [lues] (he was infected with chancre in his 33rd year); he even heals psychic disorders (on admission he recognized that he was in an asylum and was diagnosed insane); he will found a Socialist state (he was persecuted by the White faction for being in the Hungarian Bolshevist Government). Thus on the superficial layers we find frank wish-fulfilment phantasies built on the infantile pattern, poverty is turned to riches, persecution to honours, and above all there is gratification in much eating and drinking (Griesinger and Freud).

The state of sleep with relaxation of the censorship and the closure of the sensory end of the psychical apparatus favours dream formation. The same factors are not found in paresis. The patient generally perceives the outer world quite well, there is nothing corresponding to the closing of the sensory end of the psychical apparatus. The explanation of the fact that the delusions are adhered to in spite of contradictory impressions from without is found in an infantile regression of the critical faculty. The patient quoted constantly repeats that he is 33 years old although he claims to have lived for ever. Why always repeat that he is 33? The suspension in the passage of time may be attributed to a fixation at an important date—a misfortune, namely, his *lues*; it is significant that he contracted this in his 33rd year. Other cases are given supporting this. A further explanation may be found in the "shattering of the ego-sense" produced by an ulcer or a disease of the genital, a complaint in this part being apt "to draw the entire ego into sympathetic suffering," and with this is coupled the idea of a threatened impotence. In the case quoted a remarkable phenomenon was noticed: soon after admission he freely recounted when he had been infected, *i.e.* sixteen years before, in his 33rd year; later when grandiose ideas developed he denied *lues* altogether but began to speak of his 'immortality,' and his age as the unchanging 33. He said that not he but his son had *lues*, who then crept into him and thus was cured. The equation son = penis is here manifest. Once he said that not he but his companion Michael Tohn had syphilis "who crept into me—the scoundrel—who played a part inside of me" (Michael Tohn is the patient's name!). Similar cases are given. The "*lues* complex is repressed and the fixed age takes over the rôle of a memory cloak, where there is a return of the repressed it takes the form of a change to the opposite, the idea of a fatal disease becomes the beginning of a new life."

This act of repression is only a special case of *repression of consciousness of sickness in general*, and as we should expect the repressed will betray itself

at times; the patient asked his physician for a match to light a cigarette "to cure my sickness" instead of "to light my cigarette," although at the time he was denying that he had any sickness to cure.

Thus far Hollós. Ferenczi now takes up the argument. Bodily invalidism leads to a peculiar distribution of the libido, the patient withdrawing interest and love from outside objects and concentrating it more or less on the self or the diseased organ; his 'narcissism' is a repetition of the infantile state before object relations had developed. Ferenczi has already elaborated this theory in *Ueber Pathoneurosen* (1917) (translation in preparation by the Institute of Psycho-Analysis) to the effect that quantities of energy can be stored up not only in the Ego but in sick organs (or their psychical representations) and that these stores of energy may play a part in organic regeneration and healing. A shock accompanied by a severe wound leaves less trace of psychical disturbance than one without such wound. If the narcissistic libido mobilized by the trauma is used in an organ for purposes of healing it cannot fluctuate freely and cause neurosis. From war shock cases is but a step to making some reflections on illness in general; (1) a wound to or injury of an erogenous zone may produce a severe psychical illness (puerperal psychoses, for example); (2) severe narcissistic psychoses of a psychogenic nature may be cured by intercurrent organic disease, at least for a time (melancholia, for instance). The surplus libido is imprisoned in the diseased tissues. Ferenczi now makes a jump: some of the mental symptoms of paresis may be regarded as a *Cerebral Pathoneurosis*. Only students of the recent psycho-analytical publications will be able to follow the next intricate steps taken. Is the brain, then, an erogenous zone! In a sense any organ may become such; there is no organ whose stimulation or disorder does not influence sexuality and there are reasons for thinking that the brain has an unusually large share in this narcissistic libido, for just as the peripheral organs give up the greatest share of self-gratification to the most favourable of the leading (genital) zones, so that this last (the genital itself) takes priority over the others, so the brain takes over the Ego functions. It is the most significant advance in development, that the sexual stimuli should be centred in one group of cells (making the genital the central erotic organ); the apparatus for subduing stimuli, on the other hand, comes into closer and closer association with the organ of the Ego impulse; but while the genital maintains its rôle of executive organ of erotism unchanged, the narcissistic undertone of accompanying higher psychic acts can only be explained by certain assumptions taken from psycho-pathology. In the case of G. P. I. the metaluetic brain infection by disturbing the organ of the Ego function provokes not only symptoms of defect but also acts as a trauma, upsetting the narcissistic libidinal balance, and so produces a parietic mental disorder. He is careful to add that this notion commands only personal credence. How does it apply to Bayle's classification of parietic symptoms into stages of (1) initial depression, (2) manical excitement, (3) paranoid delusions, and (4) terminal dementia? Ferenczi thinks only the very early 'neurasthenic' symptoms are attributable to defect, the patient is usually first seen in the stages of compensation. One of the symptoms of the 'neurasthenic' phase is diminution of potency which may be taken as a sign of withdrawal of libidinal interest from the sexual object and prepares us to expect that the libido so withdrawn will be put to some other use; that it is not due to degenerative processes is shown by the frequent return of potency at a later stage of the disorder. The curious hypochondriacal symptoms so

frequently complained of probably accounts for some of the libido withdrawn from the sexual object. These sensations are those of a 'narcissistic actual neurosis,' of a painful storing up of libido in bodily organs. These hypochondriacal states are found not only in patients with anatomically intact organs but also organs which are diseased or injured. If the store of libido mobilized as 'counter-cathexis' exceeds the amount required for healing it must be mastered [bound] in the psychical sphere. This is specially the case with pathoneuroses and may go a long way to explain the flaring up of hypochondriacal symptoms in paresis. Then how explain the euphoria and enhanced interest in objects (sexual and non-sexual)? It may be regarded as an over-compensation for the narcissistic-hypochondriacal lack of pleasure—a convulsive object cathexis. But the undertone of hypochondria persists all the same, it is only masked by euphoria, it is "hypochondria with a positive sign." Then there are two stages of 'actual psychosis' [by which term he draws a parallel with the 'actual neuroses' that are of somatic origin and result from disorders of amount or distribution of sexual excitation], and these have to be distinguished from the superstructure which is mainly psychic. Put into a formula: *the parietic 'actual psychosis' is built up of symptoms which can be traced in part to libido discharge and convulsive object-cathexis and in part to a pathoneurotic, narcissistic intensification of the libido provoked by organic lesions.*

The euphoric mood gives place as a rule to melancholia when the Ego cannot help recognizing its injury. In this mood we find the frequent symptoms of melancholia, insomnia, sphincter paresis, suicidal tendencies, emaciation, and distinguished from psychogenic melancholia by the physical symptoms. He applies the Freudian theories of the latter disease to explain this stage of paresis; it is a narcissistic psychosis, its symptoms are those of any great injury and libido impoverishment brought about through damage to or devaluation of an *ideal* with which the Ego had deeply identified itself. The sadness is a mourning, the self-accusations are sadistic impulses directed against the earlier love object that is now incorporated in the Ego-system; there is also regression to oral sadism. There may be 'identification melancholias' and those following direct damage to the Ego itself. Ferenczi regards this parietic stage to be of the second sort. The patient, owing to loss of Ego feeling, mourns for the loss of a once fulfilled Ego-ideal. So long as the defect symptoms involved only separate peripheral organs, the parietic could withdraw from the situation with only a pathoneurotic hypochondria; when the disease invades the highly-estimated Ego itself (intellect, morality, aesthetic sense), self-observation compels a feeling of impoverishment. So long as the libido itself can be satisfied by various psychical activities, any amount of bodily destruction can be tolerated, but driven first from bodily gratification and then from self-esteem the path would seem to lead to melancholia.

And where does it lead? These patients get rid of their distress by mania or hallucinatory wish fulfilments—by delusions of grandeur. The mania here as in the psychogenic disorder is a triumph over melancholia by dissolving the Ego-ideal into the narcissistic Ego, or, put in other terms, the patient gives up the identification with an external object and releases the energy of the cathexis which had been spent in mourning. The author attempts to answer the questions: How can these processes occur in an Ego attacked by disease? Does not the disintegration of disease nullify the integrating forces within the personal Ego? The answer involves a detour into Ego-analysis. Catatonics, in a state of waxy flexibility, permit anything to be done to them

because their bodies have become indifferent to them; there is a 'sequestration' of the psychical representation of the body from the Ego, the whole of the patient's narcissism has retreated into a 'spiritual Ego.' In paresis the psychical Ego may get 'sequestered' and there is a concomitant regression to earlier levels of Ego development.

A brief review of Ego development is here given and must be abstracted in the hope that some clarity may be given to these hypotheses. A person passes through the stages of unconditioned and later hallucinatory omnipotence, through the stages of magic gesture, to the realm of the 'reality principle,' when he begins to separate his personal wishes from reality. Adaptation to society makes continual demand on the narcissistic self, compelling recognition of reality. How does a person become attentive, clever, prudent, wise, moral and at the same time elastic; how is the change brought about from complete self-centredness to that degree of self-sacrifice demanded by society which may at times be even heroic? It occurs gradually by a continual progression of identifications with educators taken for the Ideal—by a development of the Ego-ideal. This becomes an 'Ego-nucleus' (Freud) which behaves as subject to the rest of the Ego, it founds the institutions of censorship, conscience, reality testing [Freud has withdrawn this last from the Ego-ideal, now called by him Super-Ego, and given it back to the Ego; Ferenczi's and Hollós' paper was written before *Das Ich und das Es* appeared], and self-criticism. Every new capacity means the attainment of an ideal and is a narcissistic gratification as well, an enhancement of self-feeling and the re-attainment of Ego stature which has been diminished by unfulfilled ideal standards. Object libido passes through a certain education too, but less severe; one has at least to avoid incest and certain perversions, so even object love must become Ego-syntonic.

In paresis, self-observation supplies information to the Ego-nucleus that not only bodily but also psychic functions are being ruined, and the Ego-nucleus replies to this with depression. [Freud's revised Ego hierarchy places reality-testing in the Ego, Ferenczi in this sentence seems to confirm this topography by saying "self-observation *sends the report* to the Ego-nucleus..." (my italics). He goes on to assume that the Ego-nucleus gets depressed. Freud's assumption is that depression belongs to the Ego (as contrasted with Super-Ego, or Ego-Ideal), the depression being caused by the disparagement of the Super-Ego. Confusion may arise unless Ferenczi's speculations are kept distinct at junctures such as this from those set out by Freud in *Das Ich und das Es*.] If the psychical pain becomes intolerable there is narcissistic compensation in regression to earlier stages in development, *i.e.* the patient surrenders the ideals imposed by education, and narcissism regresses to the infantile past when the patient was complacent—and all powerful. The manic-delusional stage is the one in which narcissistic libido has regressed to a point in Ego development which has been mastered: from the psycho-analytical view-point General Paresis is Regressive Paresis.

Freud conjectures that analysis of the psychoses will show similar conflicts and mechanisms of repression even in the sphere of Ego psychology just as they are revealed in the transference-neuroses in conflicts between Ego and Object. [Freud (again revising) regards neurosis as a conflict between Ego and 'Id' whereas psychosis is an analogous outcome of a similar disturbance in relation of the Ego and its environment.] In paresis the manic phase renders the injury to the Ego ineffective by 'sequestration,' which is analogous

to neurotic repression, the patient withdraws libido from the body and 'recompensates' by luxuriating in phantasies of power. The patient described above found it sufficient to rub his nipples in order to create boundless quantities of daily requirements, *i.e.* he had regressed to the stage of hallucinatory gesture, though impotent he can recreate the human race by extragenital infantile sexual activities. If hallucinatory magic fails to obscure his observation of his deterioration he projects this on to someone else (his companion Michael Tohn had syphilis—but this was his own name!) or he will rise in rank as his deterioration increases. Or again he keeps a certain Ego complacency by retaining the age before his injury. Coincident with this is a tendency to every sort of sexual activity that was once abandoned; it is as if the polarity of Ego centre (brain) and genital, which was so laboriously achieved, disappears and the Ego becomes again flooded with erotism. The two kinds of melancholia can be contrasted in a phrase: while in psychogenic melancholia the grief is over the loss of an ideal, in paresis the disease successively destroys one grade of identification after another, one ideal after another, the sum of which constituted the Ego-ideal. These Ideals and Identifications may, like hallucinatory images, have a kind of independent existence within the Ego, and normally cohere, but they may appear in independence in dream or psychosis. This is the 'sequestration process' above referred to, and has an analogy in projection—the opposite process is the partial 'ideal-introjections' which constitute the pabulum of Ego development.

A psycho-analytical theory must offer some explanation of why one type is manic, another melancholic, another passes quickly to simple dementia. As in other diseases, psycho-analysis supposes an admixture of constitutional and traumatic factors, and on these is the 'choice of neurosis' dependent. Psychiatry has followed up the endogenous factors, psycho-analysis deals with the way the Psyche reacts to cerebral noxae, with the Ego and libido constitutions, with the weak points, the fixation points in development—these last are important in all pathological processes. We can assume that a man who is strongly narcissistic from an early age will present a different type of paresis from one of a 'transference type.' The readiness to regress to oral or sadistic-anal erotic fixations will give rise to different symptoms from those with fully developed genital primacy; also the stage reached by Ego development, the cultural level of the patient will influence the psychotic reaction.

Unexpected death evokes more intense grief, sudden disappointment in a narcissistically loved object brings deeper depression, and so a stormy pathological process may evoke a more vigorous patho-neurotic reaction than a slowly developing brain disease. In slow disease traumatic effect is lacking, and therefore, there being less narcissistic libido mobilized, there will be less likelihood of paretic melancholia or mania. In addition to this time element we have to consider topographical factors in Freud's sense, namely, the influence of the disease on the relations between the Ego nucleus and narcissistic Ego. If the Ego nucleus remains immune the decline in physical and psychical capacity will bring on strong psychotic reactions, but if this is involved too, if Ego criticism fails, the clinical picture will be one of simple deterioration. If this be so, the excited paretic is not so 'completely uncritical' as current literature would lead one to believe. That can only be said of the paretic with simple deterioration; it is the 'sensory self-criticism' which calls forth the striking symptoms of the manic and melancholic types.

A part of the patient can (in the case of the last two named types) recover

from the shock and live for years with only slight defects, their psychotic symptoms are of a 'functional' nature; on the other hand, perhaps years later the disease may attack the Ego nucleus again and induce more symptoms of mania or depression, but this time the patient becomes uncritical because the separation or tension between Ego nucleus and the narcissistic Ego residue is diminished.

There is another clinical type called 'galloping' or 'agitated' which may be explained by assuming that the disease does not begin in the Ego-periphery but in the Ego nucleus, so that the forces in the latter which normally bind together the various elements of the personality, are destroyed and (lacking 'cement') the patient gives himself over to separate identifications and 'personifications.' This process is to be noted in acute toxic deliria and may be similarly explained.

Ferenczi now takes up another speculation: he makes analogies between individual and group psychology and a 'symbolic' conception of the organization of the Psyche. Narcissistic libido links the individuals in the crowd, but they are led to action by a leader; narcissistic Ego residues are the individuals and the Ego nucleus the leader; if this leadership fails in the crowd there is panic, in the Psyche there is—hallucinatory confusion!—and in both anxiety is experienced.

He closes "these speculations on a stereo-chemistry of the Psyche" with the remark that at any rate many psychotic manifestations of paresis as well as the whole course of the disease are not inaccessible to psycho-analytic explanation.

J. R.

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III Jahrgang. Nr. 1. December 1924. ADLER: *Neurosis and Crime*. The author states as the fundamental concept of Individual-psychology that every mental situation develops under the dictatorship of the impulse to mastery, and he develops this theory to show how it may be regarded as a basis for understanding neurosis and crime. Both neurotics and criminals share the following features: (1) feelings of discontent and of being thwarted, (2) incapacity to join in with what is going on, a lack of social feeling, disregard for others and for society, (3) an egoistic perspective which since childhood has been modelled on a self-centred pattern, (4) unruly impulses to master others not by courageous actions but by tricks, craftiness and devices, (5) a considerable narrowing of their 'radius of action.' He repeats the familiar view that neurosis is due to reactions against feelings of inferiority by means of the masculine-protest; the child suffering the blows of fate in the narrower circle of the home extends his hatred to the broader world when he grows up. The gravity and importance of a neurosis can be measured by the degree of discouragement, but not its form and content. All forms of treatment,

suggestion, auto-suggestion, all medical measures, are effective in psychotherapy only so long as they keep up the courage of the patient; a treatment promises positive results if it gives back to the neurotic the feeling of equality which was destroyed in infancy. These patients frequently play with the idea of committing crimes or dread such tendencies in themselves. Both neurotic and criminal disorders share the same starting point (feeling of inferiority) and inevitable and avoidable failures are common to both, due to wrong preparation for the life at school and life in general. But in the case of criminals there is courage enough left to wish to overcome others, and this is carried out in ways that are not in accord with culture or from a feeling of power. Crime brings peace to the tormenting feelings of inferiority and appears to the criminal to be an heroic act. This applies both to the crime of craftiness and to that of action. But at the moment of the crime the same lack of courage is shown that leads the criminal at other times to shun the normal activities of life.

In contrast to the neurotic the relation between 'I' and 'thou' is essentially stronger, and the criminal's dealings with the opposite sex, his friendships and *camaraderie* is greater than the neurotic's. These traits show a relation to the will to conquer, and the criminal's forbearance and mildness to the weak and poor supports this view. The mixture of will-to-conquer and feelings of inferiority allows a loose contact with society, strong enough to carry them along but too weak to permit the carrying out of normal tasks. The dread of being bottom dog drives them to do things that *seem* heroic. A further evidence of the criminal's cowardice is his superstitiousness, this and vanity and boastfulness are his sheet anchors, the supports of his feeble courage. The difference between the criminal and the neurotic lies in the fact that the former seeks for a cheap victory and hinders his own attainment of it through his grievances. The neurotic seeks for conditions that will make his part in life easier, the criminal looks for something to strengthen his resolution to do the deed.—Here follows an individual-analysis of Dostoevski's Raskolnikoff in eight lines. Thirteen other criminals are briefly dealt with.

In conclusion he notes that he is continually struck by the situation of childhood being a poor preparation for present-day life. In this he finds himself in agreement with nearly all workers in this field. The crux of the matter lies in the unfolding of the child's mind and the rôle of the mother. The mother is important because in her the child sees the absolute reliability required of him as a man. If the mother fails in her duty or if the child has no mother he will have difficulty in finding a substitute. A child brought up without love or with too much has difficulty in making social adjustments, in the former case from insufficient preparation for life, in the latter because social feeling is bound up too much with one person. In both cases the child lacks the necessary security and self-consciousness, under-estimates his own powers, feels inferior and weak. Often physical defects further disturb the belief in his own power and he is finally discovered to be neurotic or a criminal. STEIN: *On the psychological interpretation of disturbances of function conditioned organically*. The feeling of incompetence induced by the organic condition leads to increased (psychogenic) disturbance of function, in other words self-distrust leads to functional derangements. The therapist must eliminate the idea of inferiority in the patient. SUMPFF: *On the capacity for forming psychical relationships in the normal and neurotic*. Individual-psychology gives a criterion for distinguishing neurotic from normal of greater efficacy than intelligence

tests. In the child's development Ego- and Self-feelings appear. The child learns to distinguish itself from the outer world and gains an idea of its own Ego. The environment which helps it to acquire this also sets values both on the self and the outer world. In earliest childhood standards of value are created, based on the value of the self and values determined by others. Love, tenderness, and readiness to help are experienced as proofs of the value which the child can set on itself or on outside objects. Thus a comparison between Self and Others is formed, between his own Being and Doing and that of others. What is important is the correctness or falseness of the values set on the Self and on Others, and from what perspective it is viewed, and how standards thus set up exert an influence on action. Here the educator's tact is needed to make the child's smallness tolerable to him and to rouse his slumbering capacities in measured extent with his tasks. The longing for precedence is the instinctive force which the educator employs. The tension of waiting for success must be endured with the necessary elasticity. Self-regard consists in restraint plus self-confidence.

In pathological cases, whether due to organic inferiority or a discouraged self-regard, the child has undergone a disturbance of his self-valuation, tact could have overcome the fault, when already established the patient needs special treatment. Freud's analysis is criticized as dangerous because of the dependence ('transference') on the analyst, in Adler's method 'transference' is regarded as a symptom of the total orientation of the patient to society [*total*, not a libidinal relation only] so the individual-psychologist can say to his patients, "As you [the intimate 2nd person singular is used in the German text] behave, feel and react to this or that—so you behave to me." It is possible, says Dr Else Sumpf, to reverse Freud's concept of transference in a certain sense, a patient can displace on to others what should belong only to his relations to his physician. 'Transference' gives the analyst an opportunity to see the patient's capacity for forming relations to the outer world. Treatment is a sort of 'training' [a word now much in use in Adlerian literature] in the relation to *one* person on a basis of truth; the patient finally wishes to 'speak freely,' though at first hindered by shame. Continual 'free speech' and solution of the current conflicts effects extraordinary release from tension, the over-valuations and under-estimates are corrected and the path is cleared for a change from egocentric to objective relationships. Justice and love become freed. Owing to the dynamic processes of the mind the relation of patient to one person only (the physician) develops into his relation to many persons—the neurotic acquires a new outlook. The one-sidedness in the patient-physician relationship can be compensated by the goodwill of the patient, anxiety lest he be depreciated gives way to trustfulness, increased self-regard demands increasing independence, finally the relation of patient to physician disappears in favour of a friendly relation on an equal basis, it is one of trust. What is important is the tendency which makes a man open or secretive and whether it makes him for or against society in wide or narrow sense. The test of a society is the value it sets on the individual, the test of a man is his relation to himself and to others; these are correlates and must be kept in equilibrium. WEINMANN: *Reports on the Second Congress of Educational Therapy*. LAZARFELD: *Erotic memory and erotic faithfulness*. A general discussion with many quotations from the poets.

RUTH KÜNKEL: *Punishment in Education*. A child learns from its own actions, not from punishment. If a child breaks something and is punished

for it he will isolate himself more or less from the outer world and will become egocentric. He should be told that he has destroyed something useful and beautiful, his attention must be directed to self-control and recognizing the value which others place upon objects. The more 'difficult' a child is, the more must his teacher express regard and love for his pupil. Education proceeds not by compulsion but through feeling. WILHEIM: *On the Alteration of Meaning of Words*. Examples: The Latin 'universitas' signified the whole, or, in a wider sense, the universe. About the year 1200 we meet with the word 'university,' meaning a place of higher education. In the security provided by the double ramparts of the Latin and Greek languages, and supported by the enormous strength of the Church, the ambition of the universities grew beyond bounds, and men of education found a new means of gratifying their ambition by acquiring the title 'Doctor Universalis.' The Latin 'homo' originally signified a man. Only in a time when the male was completely dominant and the female without rights would it be possible for the word 'Mensch' or 'man' to signify mankind as a whole. As a final proof of the masculine protest he says the word 'werewolf' was originally 'virwolf' from the Latin 'vir,' meaning 'man.'

III Jahrgang. February 1925. ADLER: *A Frequent Source of Sadism*. In most cases of sadism we find hostile impulses directed against children both in phantasy and in reality. Some authors find both sadistic and masochistic components in such individuals. Adler thinks that closer examination resolves this contradiction and eliminates the necessity for postulating an original masochism. It is clear that we have to deal here with a pseudo-masochism, a comedy of masochism, but not the reality. Who has not heard of a school-master, as he beats one of his boys, saying, "When I was your age, I was beaten on the smallest occasion if I hadn't done all my work," and so forth. In Adler's view, we are dealing here with a man whose childhood's terror had not disappeared from his memory, and who takes up the standpoint, "Others shall not have a better time than I had." They are people who in childhood lived under enormous pressure. It is a matter of indifference whether that pressure was real or was only strongly felt. Adler recalls Shakespeare's words in a similar case, "And so I am resolved to prove a villain¹." He distinguishes two types of teacher and parent. The one wishes that the children should have a better lot than they had. The other, that the children should not have a better lot than they had. Both types may appear in complicated and veiled forms, so that a person such as we have described would be astonished if one pointed out the connection, and said, "You belong to those who wish that the children should not have a better time than you had." However grotesque such persons may appear, on a closer individual-psychological examination the caricature is resolved and we are able to observe them with extraordinary frequency. SEIF: *A Case of Phobia of Eating*. A merchant, 55 years old, the eldest of ten, and his mother's favourite, married at 23, had attacks of anxiety when eating soft mealy food or hot meat and certain kinds of soup. In childhood his mother had been a pedant on health-culture and insisted on punctuality and thoroughness in eating, depriving them of the

¹ Shakespeare's couplet runs:

"Since I cannot prove a lover,
I am resolved to prove a villain."

By omitting the first line Adler loses sight of the most important feature in the situation. J.R.]

second course if her children did not finish the first. When he spat out mealy foods on to his plate his mother took this amiss and told him bogey-stories. In order to 'understand' these symptoms it is necessary to understand his 'dominant tendencies,' his 'goal.' These can be summed up in the antithesis: Slave—Lord, Compulsion—Freedom, To-be-underneath—on-top. His childhood's model of behaviour, which he applied in every situation in life, finds adequate expression in the categorical imperative: Behave as if you could get back to the same painful condition of restraint that you were in in childhood with your rights of primogeniture to the oppression of the mother against your brothers, behave as you did then when illness and obstinacy gave you power over your mother and her commands and prohibitions! The root of this lay in a profound discouragement, in a tremendous feeling of inferiority due to his mother's persistent obsession about food and his constitutional weakness and the organ-inferiority of his bowels, which last was shared by his mother and uncle; also he was jealous of his uncle. The outbreak of his illness occurred when under great stress during the war he took to alcohol, tobacco and coffee. He realized, too, that others were taking his place in the business during his absence, he felt he would have to take a back seat. Then his disturbance of eating began, and was accentuated by reading in the papers that a man with similar difficulty had died of starvation. He had always been hypochondriacal, an ordinary cold sending him to bed, and the slightest illness necessitated a visit from the doctor. He built up on this strongly egocentric 'training' till he had established his superiority on all around him. He used his illness, his trouble with food, to become irresponsible and independent of claims upon his energy. His fictive compulsion made him pass most of the dishes in a restaurant and concentrate on alcohol and puddings. "I only let my mother and no one else decide what I must eat." He could eat what his neighbours took and eat of that freely though he "could not touch" the same food when alone; as a child he snatched Christmas fare from his brothers' plates. Finally everything had to be prepared specially for him. Then his Imperialism took shape, at table he had no equal! The same tendency was seen in childhood and youth in other forms: he could not endure military drill, he seldom wrote personal letters (30 in his whole life). In all things he must have the last word. His whole life was a fight against his mother, against compulsion to do things, and loss of position, an obstinate attempt to avenge himself and overthrow her.

The treatment of this case lasted several weeks. His great sensitiveness, his timidity and dejection, his readiness to say "no" to any proposition and his quarrelsomeness showed clearly a disorder of his self-feeling and demanded a corresponding degree of tact. But his desire to be cured afforded a bridge to understanding his case and to co-operation in the work of treatment. Quickly he came to a clearer view of his orientation to life [no details given], the error of his feeling of inferiority was perceived, and he understood how he had struggled with himself, with his mother, his family and friends for the semblance of mastery and dominion. He saw how infantile he had been and how unsocial. Individual-psychological treatment was combined with therapeutic gymnastics to develop the weak muscles of arms, legs and trunk. He once more joined in social functions and took what was set before him at table.

This case is a demonstration of the axiom that anxiety and compulsion are poor teachers. Meals are social functions, not mechanical swallowings of food, they should be cheerful occasions and occasions of cheer. Threats,

warnings, beatings, and standing in the corner should not be used at meal times. Eros, not Eris. Nothing must be done that will make the child feel inferior or give it a feeling of insecurity. JACOBS: *Individual Psychology and Common Sense*. (In English.) The authoress sets herself the task of answering two criticisms, the one that Individual-psychologists lay dogmatic stress on the feeling of inferiority, violating facts to fit the theory, the other criticism that Adler's psychology is only "glorified common sense." She brings an empirical answer: if this were really only common sense it could not accomplish anything more than common sense itself. The functioning of common sense in the Individual-psychologist is similar to that of the artist's eye, which sees what other eyes see but through training sees subtle relationships through the training of experience. This training is in a special orderliness. She gives a concrete case of a child analysis. The Individual-psychologist strives to discover what the child feels about herself, in what way she feels inferior, limited, deprived, and on the look out for compensation. Questions are put regarding the family. The little girl had a sister who, she said (all in a breath), was prettier than she and did lots of work. Here was the key to the whole neurosis (unwilling at home, hateful to elder brothers, given to petty stealing and lying, to nibbling and other self-indulgences; the child had also allowed herself to be enticed by a middle-aged man and to receive presents from him). The keynote to the inferiority: her sister was superior to her! If it is pointed out to a child that it should take the trouble to do better the chances are great "that the child will itself go straight to the heart of its egocentric and anti-social attitude." When the child confessed that her elder sister was preferred before her the analyst asked why she did not make herself more lovable. The child recognized the validity of the question "but had become so involved in the meshes of her own unlovableness" that she needed more than a word of common sense to encourage her to take the necessary steps. Reiterated explanation that all that was required of her was to do *her* best led her to realize that *that* task *was* possible. "It is easier [to make a child see this] than one may at first suppose." The first step is to discover the child's self-criticism, the next step in technique works infallibly; the patient is presented with an account of himself or herself by the analyst, a story objectively told of just how such and such a little boy or girl behaved (word for word, of course, the patient's story), the analyst continues that this Other person begins to think that it isn't fair for him to have all the good things and others to be left without, and, turning to the patient, asks which of the two he or she would rather be like, would prefer to live with, and which of the two are people most likely to love? This is plain common sense but directed consciously¹ to help the child to see himself in the social group, and not to make hopeless

¹ Though this word is used in Individual-psychology frequently the antithesis is hardly ever employed. The whole system (for such Adler calls it) dispenses with the concepts of the Unconscious, Repression, Regression, the Development of the Libido, Fixation, and even Grades within the Ego-system. In justice to Adler's psychology this must be mentioned, because there is a tendency to forget how independent his system has become of other schools of psychology, and the reader may fall into the error of thinking that Adler has added a 'glorified common sense' to the depth-psychology of Freud and Jung. Nothing is further from the facts, Adler's system must be regarded as completely separate from the others, their notions must not be read into his explanations, which stand or fall entirely on their own merit. J. R.

comparisons between himself and his betters. The problem resolves itself about the question: Does it not give you more pleasure after all to be good friends with others, wouldn't you like to help mother wash the dishes, to help her who does so much for you? Don't you like yourself better when you help others? Individual-psychology focuses attention on the central sensitiveness of the child which is at the root of his uncertainty, his fear of humiliation, and the aim of treatment is to leave the patient with Critical Optimism. The analyst does not neglect to find out if the environment is really too hard for the little patient, it is useless to persuade a child that his father is fair when he is not, the child is told of its parents' troubles too. A sullen little boy objected to washing the dishes with his sister 'because that's a girl's job.' After many talks he saw that manliness consisted not in the nature of the job but in *being* manly, and the child began to make tentative efforts to do better at home. The treatment was extended to the mother who turned to the analyst in moments of crisis, as for example when the boy was sent back from school for stealing. The mother asked if the boy should be deprived of manual training as a punishment, the analyst took charge of the situation and persuaded the boy to apologize to the teacher. Individual-psychological analysis consists in discovering and correcting the errors in judgments of values, self-values, exaggerated expectations and desires. It is "common sense clarified and ordered and rendered more certain in its seeing by the searchlight with which it probes straight to the feeling of inferiority." It is common sense grown more tactful in appealing to social feeling, and is the more optimistic because it finds these inferiority feelings can be corrected by training the individual will to avoid neurotic helplessness. KÜNDEL: *Critical Contribution on Ambivalence*. The Individual-psychological contribution to this problem centres on the relation of the wished-for object to the wished-for goal. Their interdependence is a special example of the general Means-Purpose-Relation: the wished-for object must be a means to the wished-for goal, and *vice versa*. Ambivalence in means-to-a-goal is impossible, therefore ambivalence of purpose is impossible, *ergo*, there is no ambivalence. What is called ambivalence is a manoeuvre to avoid some life task. Therapy consists in encouraging the discouraged and this is best done by searching out all loopholes and furtive ways of the mind where cravenness lies hiding. Ambivalence is a roundabout path in the mind. OPPENHEIM: *Vergil's Dido*. TRIANDAPHYLIDIS: *On Secret Languages*. Thieves' jargon, cant and back slang. Examples given from several languages but these are not analysed. ADLER: *Critical Reflections on the Meaning of Life*. These reflections bring the second part of the third volume to a close. There are three great polarities: Man—Mankind, Man—Woman, Man—Cosmos. The paper is short and is philosophical.

J. R.

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SIGMUND FREUD. *A Note on the 'Wunderblock.'* The apparatus of memory has its material counterpart, just as the eye has (spectacles, telescopes and cameras)—one can make a note of an event and leave thus a 'durable memory trace' in ink on a writing pad; but in this case, when the page is filled, it has to be removed to give place to another. Or one may write with chalk on a

slate, rubbing out what has been written when it is no longer needed. In the former case the record is permanent and has to be searched for among one's other papers, in the latter permanence is sacrificed to immediate visibility. In 1900 Freud postulated (in *The Interpretation of Dreams*) two systems in the psychical apparatus, one which receives sensory stimuli (*W-Bw*)—'perceptual consciousness,' which preserves no traces of impressions received—and a 'memory system.' To this was added (in 1923, *Beyond the Pleasure Principle*) the notion that the inexplicable phenomena of consciousness arose in the perceptual system in place of durable traces. A material extension of the psychical apparatus is seen in the popular writing tablet in which a surface of dark wax is overlaid with a soft flexible tissue, which in turn lies under a pliable transparent sheet of celluloid. A stylus is used, presses through the celluloid (without marking it) and gently pushes the soft tissue on the dark wax; the writing by contrast is then seen as dark lines on a pale background. To clear off the writing, the tissue is lifted from the wax, so that the intimate contact at the places where the stylus has pressed is eliminated. As the essential part of the writing device is the pressure of a pale soft tissue on a dark wax, the question arises why the celluloid is there—this is to protect the delicate soft tissue from being torn. The celluloid is clear of writing and is always ready for transmitting the pressure of the stylus. It is also to be noted that the wax surface bears permanent impressions of the stylus; in a certain measure the device has some of the merits of the permanence of the notebook, and those of the visibility of the writing slate. This is achieved by the union of two separate systems used in combination: the superficial layer contains no arrangement for permanence, it is the receptory surface, the deeper structures (of memory) occur (in theory) behind the receptory one. The stationary appliance has no mechanism for the reproducing of any given memorandum. It is sufficient for purposes of analogy that it preserves the traces of the letters. The celluloid and soft tissue belong to the 'perceptual conscious' system (*W-Bw*), the wax to the unconscious. The writing disappears when the soft tissue is lifted from the wax; Freud likens this to a process he has long had in mind to explain the functions of perception, namely, that the 'cathexis-innervations' are sent from within outwards to the *W-Bw* system in quick periodical waves of excitation which are withdrawn again. While the *W-Bw* system is in this cathexis it receives the perceptions accompanied by consciousness and conducts the excitations again to the unconscious memory system; as soon as the cathexis is withdrawn consciousness ceases and the function of the system is inhibited. It is as if the unconscious sent out feelers to the outer world by means of the *W-Bw* system and quickly withdrew them as soon as they had experienced the excitations. The periodic inexcitability of the perceptual system finds analogy in the raising of the soft tissue from the wax, and it may be that this discontinuity in mode of operation of the *W-Bw* system lies at the origin of the concept of time.

S. FERENCZI: *Psycho-Analysis of Sexual Habits*, with Contributions to Therapeutic Technique. This is a continuation of his papers on 'Active Therapy,' but without extending the theory of his methods. He interprets Freud's formula, that analysis should be carried out in a psychical state of deprivation, to mean not only that the patient should not be given the fulfilment of the wishes and desires expressed in the transference, in particular his desire for tenderness, and turning to the analyst for life, but also that he should be able, with judgment, to dispense with other kinds of gratification. The first reaction to the hint to give up the pre-genital gratifications is usually an exaggeration

of the opposite tendency, *e.g.* a patient with pollakisuria by way of reaction held his water for twenty-eight hours, this 'over-potency' revealed on analysis an unusually strong tendency to enuresis in childhood; another patient, a pedant in defaecation, when told to await the call to stool, developed the hypochondriacal symptom that his bowel would ulcerate and he would get piles through holding back, and so forth. By this means a deep insight is gained into the repressed instinct-life lying behind peculiarities of character. The so-called 'character analysis' reduces itself indeed to anal, oral and urethral interests and consists in blending the instinct forces in new forms. Ferenczi refers to his 'amphimixis' theory (for critical review of this book see this *Journal*, vol. iv, p. 156, by Tansley) saying that a urethral prohibition sometimes leads to an unmistakable influence on the anal functions, as if the tendency to evacuation was displaced backwards; but other disturbances are present, a marked alteration in the pleasure of eating, and erections in those who, through impotence, have not had them for a long time. These observations led to the 'Genital Theory' expressed in the book of that name—that anal and urethral innervation may be demonstrated in 'amphimixed' blendings and the processes of rectal and vesical evacuation can get displaced on to the genital and govern its tendencies to ejaculation and retention. The active technique opens up the pre-genital structure of these cases of impotence, and supports Reich's view that not only cases of outspoken impotence but all neurotics suffer a disturbance of genitality. The active therapy showed that behind the 'over-potency' there was an infantile weakness, and the order to hold the evacuation produced an anxiety regarding sexual as well as rectal or vesical functions, which could be reduced to anxiety about pain, and further, that emptying of the bladder brought pleasure, and of the bowel pain; the former was accompanied by positive pleasure when the intra-vesical tension had increased to a certain point, and the latter positive pain in similar circumstances.

Character traits appear regularly to have relation to the regulating of anal or urethral functions, and a certain degree of anal erotism is liberated by analysis at the cost of the anal character; the anxious, avaricious patient becomes gradually (not only with excrements) a free giver, and the easily inflamed urethral character becomes more restrained. In a word, one can say the patient comes to endure more pain (unlust) than those devoting themselves to the attainment of greater erotic pleasure, and can get freedom and self-confidence which neurotics lack so much. But manifest and latent expressions of anal, urethral and oral erotism are at most secondary symptoms, they are regressive substitute formations for the real neurosogenic factors—in particular, dread of castration. There is a kind of physiological pre-stage of the Ego-Ideal or Super-Ego in anal or urethral identifications with the parent, a 'sphincter-morality' against which one cannot offend without self-reproach and stings of conscience. Perhaps this half physiological morality is the real basis of the later purely psychological kind, just as sniffing at food is the physiological act which is the pattern of all the higher intellectual activities. The tensions produced at the sphincters have been regarded physiologically from the basis of utility, while the play of pleasure and pain has been neglected. Anxiety, for instance, is accompanied by narrowing of the anal sphincters, together with a tendency to urination, and this tendency may be displaced in hysterics on to other organs (globus, hysterical aphonia, spasm of the pylorus, or even the formation of artificial sphincters); the anxiety being, in hysterics, due to dread

of a corresponding innervation in the genital sphincters, or, in men, a dread of a disturbance of potency. When a patient is advised to retain his excretions during analysis, the anxiety caused may result in a kind of panic (to carry on the 'sphincter-morality' analogy), the organs may be said to regress to the stage of infantile autonomous self-gratification. It would seem that the bio-analytical analysis has more than a theoretical interest and what has been said of anal and urethral zones and habits may be found in the oral zone and oral-character.

Freud, at the 1918 Psycho-Analytical Congress, put forward the view that analysis should be carried on in a state of deprivation. Ferenczi, basing his view on an extension of another of Freud's postulates that the bonds which hold the masses in continuing relation to authority are derivations of aim-inhibited instincts, applies the two notions to active therapy: as the child is ineducable who has habitual sexual satisfaction (presumably because this permits a return of his narcissism and makes him inaccessible), so in the subsequent education (analysis) there must be a new latent-period before the successful settling down into normal life, and during this new latent period the physician will play the rôle of the father.

Genito-sexual over-activity produces depressions which we can detect in the neurasthenic symptom-complex. Neurasthenia, which Freud attributed to 'inadequate discharge,' appears on closer inspection to be an anxious protest of bodily and psychical ego against libidinal spoliation; it is based on an hypochondriacal ego-anxiety and is in direct antithesis to the anxiety due to dammed-up object-libido-anxiety neurosis. He confirms Reich's opinion that anxious onanists should not be given an unconditional prohibition against their form of gratification, the patient has first to learn to bear his onanism and then to tolerate abstinence, *i.e.* one must allow an increase of tension from narcissistic libido and then make the de-tensioning process not a sacrifice but a release and an easement. The nocturnal pollutions—shown to be wished for acts of onanism, but repressed from consciousness as such—disappear in the course of treatment. Emission-dreams are disguised incest-dreams, and these disappear when their origin is resolved; the change from emission-dreams to the less pathological onanism is a sign that the injunction to complete abstinence may be given. Anxiety neurosis can be treated palliatively or causally according as the disease is due to the quantity of accumulated libido on the one hand or to sensitiveness to the accumulation on the other, treatment of the latter condition depending on analysis and finally control of the anxiety which, under the rule of abstinence, is often increased. Neurasthenia and anxiety neurosis, moreover, have this further difference: the neurasthenic values his semen as a treasure that he has lost, the anxiety neurotic feels himself to be poisoned by it. Injunctions to abstinence produce not only displacements of innervation, but psychical reactions which otherwise remain unconscious, not only anxiety but rage and revenge are evoked in this way. Freedom is given in analysis to express these angry protests which is lacking in childhood. Libido accumulations appear to increase not only muscular tone but also a kind of tone of the organs of thought, but neither asceticism nor living-out of impulse avails in the cure of neurosis without solution of inner conflict.

Cases with great genito-sexual activity reveal on application of the above injunctions powerful aggressive tendencies, often in sadistic murderous phantasies, *e.g.* of murdering the wife. Analysis shows a reason for this in the idea

that she is a 'semen-snatcher,' i.e. it is a reaction to castration-anxiety; the death-impulses are displaced from father to mother-*imagines*. Also the anxiety is caused by the birth situation and vagina dentata phantasies. Further, these impulses may serve the purpose of making the love-object harmless, of providing unending enjoyment without castration-dreads—necrophilia (Pfeifer). The phantasies often show the subject using weapons first and his penis afterwards on his love object—an intimate connection between aggressive and libidinal actions which normally are fused in the act of coitus. In one series of dreams analysed the mother of the patient was murdered, after that he had a fight with the analyst and had a pollution, then came active homosexual dreams, then the castration of the father, and finally manifest coitus dreams with women.

Masochists present a special problem with their extra-genital algolagnic zones, their peculiar mode of displacing factors which might lead to anxiety for or pain in the genital, leaving that organ as it were free from the danger of castration and free for gratifications. If the retention advice is given in cases with an anal orientation the erotism might be pushed back on to the genital where it belongs, thus making the patient face up to castration and the dreads of being born and giving birth.

So far we have treated of urethral, anal, and sexual habits, but this does not close the list. Observation of patients in analysis shows some to be unduly stiff in movement and posture which can develop into a resemblance to catatonia; resolution of the psychical tension brings physical relaxation. In refractory cases one must give the order to make movements, and then one finds unconscious tendencies to tenderness or aggressiveness coming forward which had been inhibited by the tension that also marked difficulties regarding sexual discharge and erection. Rhythmic movements are shown to signify suppressed processes of thinking. Unusual gestures, nail-biting, nose-picking, scratching, pulling at the moustache, etc., the author has shown¹ to be onanistic equivalents, and as such should be prohibited, not so much for the purpose of stopping them as to increase inner tension and so root up unconscious material. The most obstinate transient symptom—tic convulsif—is inaccessible to our understanding or treatment without this restrictive measure.

Perhaps no neurotic bodily symptom occurs without a pre-existing infantile 'habit,' recollecting in this connection that in infancy the pathways of excitation lie more freely open than in the adult to the play of auto-erotic or organ-erotic impulses. This may explain the remarkable assertion of so many neurotics at the end of treatment that they 'simulated' their illness. And so they do as adults; they carry into grown-up life the wishes and tricks which they used to express in childhood.

Analysis, with its uninterrupted observation of free associations, can be used in the struggle against habits of thought. The technique consists in prohibiting 'talking past the point' in cases where this behaviour is used as a resistance.

Freud's division of the psychical apparatus into Real-Ego, Super-Ego and *id* gives a clearer grasp of the nature of habit. Habits belong to that reservoir of instinct and libido—the *id*, the Ego only comes into action when the circumstances require a new response, when attention, consciousness or perceptions

¹ "Psycho-Analytical Observations on Tic." *International Journal of Psycho-Analysis*, Vol. II, p. 1.

are needed. The acquirement of a habit involves the *id* taking over an activity from the Ego, while the weaning of a habit involves the transfer to the conscious Ego of an activity that was previously carried out and completed automatically by the *id*. Instead of identifying habit with instinct, it is better to regard it as a kind of transition between selective actions and the really instinctive actions which are habits of great age, not acquired by the individual but inherited by the race. In acquiring habits external stimuli are introjected, so to speak, and take effect spontaneously, as if they came from within. An analytical attempt to overcome a habit resolves itself into an endeavour to replace a purposeless mode of solving a conflict by a new, a real adaptation.

Habits could neither be acquired nor given up so quickly as they are without an identification with the educator. At this point we meet with the influence of the Super-Ego in habit formation, but the way in which the external force is internalized is a problem, and one not unlike the question of the origin of instincts themselves. Psycho-analysis aims at bringing the unconscious and automatic parts of the *id* into subordination to the Ego. The so-called 'active therapy,' by blocking the paths of discharge, creates a situation which may be called 'analysis from beneath' in contrast to 'analysis from above,' it creates a resistance against a compulsion, the holding back of the defences at once induces pain and so reveals to consciousness instinctual forces that had not before been perceived.

Turning to the technical application of these views, Ferenczi thinks that so long as the inner tension in the patient is great enough to provide the analytical material required, the artificial raising of tension is not needed, but when the patient simply makes himself comfortable in analysis progress will be held up by the passive method. Voluntary deprivations by the patient must not be endorsed without further analysis, and indeed the very opposite may be at times advisable; the psychical motive must first be discovered. The beginning of the analysis must be passive, then the personal habits will be discovered and particularly the modes of physical gratification. Patients may be got to change their environment and if away from home to return for a while during treatment. Most difficult of all is the technical control of the transference. When the patient realizes, after weeks or months of analysis, that his earlier passionate advances have been treated objectively and not negatively, his own character undergoes development and he produces childhood's memories which can easily be analysed and reconstructed. So long as the patient is in a resistant phase, the analyst must turn his attention to the unconscious tender emotions; response by the analyst to tenderness is inadvisable, transference-love must only be one-sided. In ordinary neurotic analyses the analyst is more passive than in psychopathic or psychotic cases or in character analyses—indeed, peculiarities of character are private psychoses, and paradoxically the healthy are harder to 'heal' than transference neurotics. In these Ego-analyses, where repressed *id*-impulses are seen to be subdued by strong Ego-resistances, the result to be aimed at is the development of a personality with strong impulses but governed by stronger forces. What cases are suitable for the method of tensional-increase? Hysterics bring emotions and bodily symptoms forward too freely to require it as a rule, but it is useful to bring back sensitivity to the genital; obsessionals behave with an intellectual habit throughout the analysis and so are specially suitable; schizophrenics change greatly under active therapy.

Setting a date for the end of the analysis is an active measure. What are

the indications for doing this, and what does one do when one has made a mistake? The indications are that the analyst has a thorough insight into the entire structure of the disease and has brought all the symptoms into a comprehensible unity. The patient must have worked over these relations intellectually and be hindered from conviction only by transference resistance. When the patient treats his symptoms as simulations one can take him at his word and say that the treatment will last only a few weeks more. He will be shocked and may produce small relapses into his symptoms. Further analysis usually but not always ends in success. The termination must not be set by the patient. Rank's repetition of birth in the transference has been noted but is not proved. Rank showed the existence of unconscious birth phantasies together with phantasies of being in the mother's womb, but whether the former are only reminiscences of the 'trauma of birth' rather than regressions from the Oedipus situation to the relatively less painful experience of birth that was happily overcome is a matter for question. In regard to the termination he recalls Freud's admonition that the analyst must not have the ambition to make his patients attain his own ideal; so long as the patient is ready to suit his Ego to the passions of the *id* and the demands of the Super-Ego fit the necessities of reality and he is made self-dependent, he is ready to be left to his own destiny. In conclusion the most important guarantee of safety in using the active technique is the temporary or lasting abolition of definite recommendations to deprivation. (Dated October, 1924.) HELENE DEUTSCH: *The Psychology of women in the function of reproduction*. (This paper is included in a book by the author that is now under review.) MARY CHADWICK: *The Origin of the desire for knowledge*. An attempt to trace the origin of the desire to acquire knowledge from the child's wish to satisfy his or her sexual curiosity during early childhood. Following the theme of Rank's paper, "Perversion und Neurose" (*Zeitschrift* VIII) that the query, "Where do children come from?" covers the deeper, "Can he himself bear a child?" a still further question arises. If the repression of the real wish of the child to give birth to an infant is the origin of the early curiosity, the subsequent gratification of this desire, in the acquisition of knowledge (which often occupies the first place in the life of an individual), leads back to the exclusion of the mature wish to have children. We find therefore, the repression of childish sexual curiosity produces either of two consequences, the successful sublimation of the component instinct Curiosity in scientific research and other investigations, or the unsuccessful condition of Obsessional Neurosis—Doubting Mania—where all knowledge is discounted by doubts.

Those who abandon their original aim to bear a child, replacing it with the desire for knowledge, are found to be to a great extent homosexual, which keeps them from heterosexual relationships and the bearing or begetting of children, and substitutes a mental creation for physical procreation, seen in the attempts of the Alchemist of the Middle Ages to produce the Homunculus, and Nietzsche's comparison of himself with a parturient woman with his thoughts as the offspring.

This thwarted desire to bear a child on the part of the man, finding a compensation in the acquisition of Knowledge, appears to be the dynamic of his opposition to the higher education of women; on account of his original envy of the female function of child-bearing, he refuses to allow her to share his compensation and also stimulates the male outcry against such books which give women advice upon the use of contraceptives. (Author's Abstract.)

CLINICAL COMMUNICATIONS: KEMPNER, "Contribution to Oral-erotism"; SIMMEL, "A Cover Memory in the making"; ALEXANDER, "Dreams in pairs and in series"; ABRAHAM, "An unnoticed childhood's theory of sex"; ALIX STRACHEY, "A theory of conception"; BENEDEK, "A case of phobia of blushing"; FENICHEL, "Infantile preliminary stages to 'emotionless obstinacy.'"

BOOK REVIEW: Long book reviews of Abraham's "Attempt at a developmental history of the Libido" by Fenichel, Rank's "Trauma of Birth" by Sachs, Ferenczi and Rank's "Developmental Aims of Psycho-analysis" by Alexander.

J. R.

The Psycho-analytic Review, vol. XII, i, Jan. 1925.

TRIGANT BURROW: *A Relative concept of Consciousness; an Analysis of Consciousness in its Ethnic Origin*. The time-space extension of the astronomers regards our planetary system as a function of and hence relative to a more encompassing programme of planetary motion. Psychologists must take cognizance of the "organic mass consciousness of man" in order to evaluate a man's place in the relativity of man's consciousness as a whole. Thus we shall pass from a bi- to a tri-dimensional picture of actuality, from contemplation of aspect to participation of function. This paper is the outcome of the conviction that psycho-analysts call objective evidence that is only personal or adaptive; this should be correlated not with a personal absolute but with a consensus of the unconscious of the collective mind. He does not give the analogues to Einstein's mathematical formulations which will enable the collective unconscious to be used as a term of the correlate. This is a preliminary communication. THEODORE SCHROEDER: *A Contribution to the Psychology of Theism, the French Prophets and John Lacy*. A short psycho-sexual analysis of a sect which claimed to be divinely inspired, with an account of some of their peculiar practices. HARRY STACK SULLIVAN: *The Oral Complex*. Treats of cosmos-time-organic conditions, dominance vectors, precepts and the structuralization of complexes, all with reference to the mouth and from a standpoint part behaviourist, part Freudian, part academic. It does not lend itself to abstract. POUL BJERRE: *The Way To and From Freud*. To Freud: *via* the mechanical theory of the universe. At Freud: "Complicated though it may seem, psycho-analysis may be reduced to a few concepts, viz., sex, repression, transference, resistance, projection and sublimation. From Freud: *via* Maeder (and recognition of the "relative quality of mechanization") to perception of the ever creative and ever renewing vital forces underlying the Cosmos. BEN KARPMAN: *The Sexual Offender. II. A Contribution to the Study of the Psychogenesis of Sexual Crimes* (concluded in part 2, both chapters summarized here). These crimes are due to unresolved psychogenic difficulties, are primitive types of reactions on a lower psycho-biological level produced by regressive fixations and immature mentation. He deals in detail with an exhibitionist, who was not a dementia praecox case, but constitutionally was an "emotionally inadequate individual" who does not handle his problems in the psychotic manner. The libidinal factors are dealt with but not the mechanism of repression. PAUL BOUSFIELD: *Freud's Complex of the Over-*

estimation of the Male. Freud's unanalysed complex is that the female is inferior to the male and when he cannot admit this he tends to make the female as different as possible from the male; this is a subterfuge by which a man may avoid the unanalysed portions of the castration complex in himself. In "The Three Contributions" Freud thought that male and female dispositions were discernible in infantile life, whereas, discussing a case of female homosexuality, he reduces the intrinsic nature of the 'masculine' to activity, and the 'feminine' to passivity. In "Infantile Genital Organization of the Libido": in the pregenital, sadistic-anal stage of organization, there is no maleness or femaleness, but dominantly an antithesis active-passive. The author sees contradictions in these views and confusion of thought but regards his point most clearly demonstrated in "one of Freud's fundamental axioms," that puberty, bringing to the boy a great advance of libido, brings to the girl a new wave of repression which especially concerns clitoris sexuality, "it is a part of male sexual life, which sinks into repression." He sees three errors here: (1) that the normal woman loses her clitoris sensitivity in favour of the vagina, this he doubts; (2) the new wave of repression must be abnormal, since we are wont to look on repression without sublimation as being abnormal in most cases, *i.e.* the normal progression of female libidinal development is dependent on an abnormal process, *viz.* repression, therefore the female character is the result of a process which, if occurring in the male, would lead to an infantile type of character, and (3) it is assumed that clitoris sexuality is male sexuality. "It is not permissible to classify a nerve ending as either male or female." To these objections he adds a fourth, that there are two kinds of clitoris excitements, one of the glans and another of the root, the former is the seat of excitation in girls, the latter is commonest in those who have strong repressions of the excretory functions; the latter preference is due to the fact that the root of the clitoris (just beneath the symphysis pubis is his definition of this part) coincides with the position of the penis in the male, and might therefore represent to the woman's mind a different phase of the castration complex. He does not go into the anatomy of the part and say that distance between root and glans is about $\frac{3}{4}$ inch, or in erection is about $1\frac{1}{4}$ inches, and that the organ is held down by connective tissues and covered with fat, making stimulation of the root (to exclusion of stimulation of the glans) an exceedingly difficult matter. He has found that anaesthesia in coitus is much more common in those cases where previous masturbation has been at the root and not the glans clitoris. He follows the anatomical regression till he gets nearer to the vagina. He passes into a psychological consideration of the subject with a reminder that he does not lay too much stress on his topographical theory. Sexuality in women is of the same nature as in men and is centred in corresponding organs in both but extends to neighbouring parts, both sexes pass from and may regress to a diffuse cloacal erotism, the centre is shared by both in health: extension of pleasure to neighbouring parts is normal and is a vastly different thing to suppression of clitoris excitation and its transference to the vagina, this last amounts to a "reversal of (the female's) sexual attitude." He holds that as developmentally the vagina is older than the penis or clitoris the displacement to the former of sexual pleasure might even be regarded as a pathological regression. Repression, not transfer of the zone of sex feeling, causes neuroses. He does not develop this theme, but says that if the girl could be educated so as not to have a new wave of repression at puberty she would advance to clitoris

sexuality and normal health. Some would regard the consequent disappearance of 'feminine' or infantile manifestations as undesirable. He returns to theoretical topics to discuss whether all libido is masculine and considers this view incompatible with the theory of bisexuality. He next reviews other papers; Harnik's paper on "Various developments undergone by narcissism in women" is regarded as unsound because suppression of masturbation is attributed to repression and not to normal growth, because menstruation deprives them of clitoris feeling and stimulates vaginal erotism. He does not deny Harnik's conclusion that in women it is by no means uncommon for the narcissism not to be centred on the genital but to be distributed over the surface of the body, but thinks it abnormal and a wish fulfilment on the part of those elaborating this theory. PHILIP S. GRAVEN: *A Case of Smoke Phobia*. A twenty-three year old male for seven years had fears at the sight of smoke. Oedipus situation, pangs of conscience, pains in the eyes, hence the sequence: (1) smoke, (2) thoughts of the father, (3) thoughts of revenge, criminal impulses, (4) painful conscience symbolized by the eye, *i.e.* of God who watches us, (5) the eye has the pain of tormented conscience projected into it. Patient advised when he got the pain to think of the sequence—the technique "worked like a charm," "like a cocaine of the soul," as the patient said. The author concludes with the remark that the very strong sadistic and homosexual components which analysis revealed played no important rôle in the actual production of the conflict. J. ALLEN GILBERT: *The Battle of Opposites*. Subjective—Objective, Analysis—Synthesis, Physiological Psychology—Psychological Physiology (Harvard and Yale), Structure and Function. Mind and Body, Ought and Can-not....Experience is not absolute but relative, it includes both 'me' and the 'other-than-me,' and these fuse into an intimacy which defies analysis.

J. R.

Archives of Neurology and Psychiatry, XIII, June 1925.

CURT. P. RICHTER: *Some Observations on the Self-Stimulation Habits of Young Wild Animals*. Three cases: a 3-months old female coatimundi (a 'small bear') sucked and chewed its left knee before going to sleep, or when hungry or when thwarted in its attempts to explore its surroundings, particularly when tied. When given its freedom this sucking activity immediately stopped. The hair on the left knee was almost completely worn away. A 3-months old male kinkajou ('honey bear'), bottle fed, had a habit of autofellatio so firmly fixed that the physician who reared it could not break it. This was indulged in when the animal was going to sleep, when hungry or when thwarted. The third case was a spider monkey, 6 years old, also bottle fed, who had been brought up, ate and slept with a human family and was given a daily bath. It was well behaved till puberty (aet. 5), when it showed unprovoked outbursts of rage and bit its master. It sucked its fingers under similar conditions to the other two cases. In all three cases the activity was the same—sucking—but the parts were different, but though different were each well suited to the activity; the animal which sucked its knee had long claws. The author has observed sucking activities in rabbit and guinea-pig fetuses, and supposes that an under-nourished foetus will suck more vigorously than a well-nourished

one. He concludes that most self-stimulation habits have their origin in the intra-uterine stages of development. HENRI CLAUDE, D. SANTENOISE and RENÉ TARGOWLA: *An attempt at a Biologic Diagnosis of States of Excitement and Depression*. Biological diagnosis here means serum diagnosis and the employment of the routine of a modern and thorough physical examination. They find that certain psychoses may be characterized by certain vagosympathetic formulas. The paper is not so detailed as Eppinger and Hess's and is regrettably vague. GEORGE W. HENRY and ELIZ. MANGAM: *Blood in Personality Disorders*. Well-known blood-analysis methods are described and the term personality disorders is taken to cover psychoneuroses, constitutional inferiority as well as the psychoses. The CO_2 , urea, non-protein nitrogen, uric acid, dextrose and Cl of the blood are the same in normal and psychotic; glucose tolerance shows "more or less characteristic changes in either phase of affective psychoses"

J. R.

Internationaler Zeitschrift für Individualpsychologie, III, iv, June 1925.

ALFRED ADLER: *On children who are difficult to educate and on nervous adults*. Individual psychology forges the bonds between psychiatry and pedagogy, between physician and teacher, and teaches the fundamental importance of organ inferiority and the feeling of inferiority, the psychical compensation for the same and the over compensation, the destiny of social feeling and the effect of 'guiding lines'—the issue thus opened shows how the bonds are forged. ALFONS SIMON and KURT SEELMANN: *The Psychology of the School Child*. The difficulty with children results from their disturbed relation to social life. The duty of the school is to make every attempt to cure the trouble, to remove the uncertainty from the child's mind, or the anxiety as the case may be, and lead the pupil to social feeling. If difficult children have difficult parents the latter should be invited to the school to attend a class to observe a pedagogy that does not use the birch. If a child still shows 'traits' it is given special attention and encouraged to take courage. And so on. MELKA SCHLAMMAN and ELLI ROTWEIN: *On imparting sexual enlightenment to school children*. Boys are usually content, but girls usually want to be boys. When 25 proletarian girls were asked "Are you content with your sex-rôle?" 21 answered in the affirmative, they were aged from 9–14. The authors attribute the peculiarity of this proletarian choice to the fact that the fathers came home begrimed from work, that the girls have witnessed scenes in which the father is weaker than the mother or in which he is less good at business—thus is the contradiction to the usual bourgeois answer explained. Turning to boys they found four who would prefer to be girls. No further psychological observations were made or deductions drawn. LEONHARD SEIF: *Advice on Education and School*. All will go well with a child who has good family conditions, love and those demands on his social feeling which exert the most favourable influences, which develop his trust and sensitiveness and give him courage to overcome difficulties, which leads from self-help to mutual help. Less favourable cases need help and Dr Seif gives examples of friendly conciliatory explanations which dissolve the unfriendly relationship of the child with its relations: "Haven't you often made it difficult for your parents?"

Aren't they occasionally right? They love you when you are good to them and help them..." and so on. COMMUNICATIONS FROM THE EDUCATIONAL ADVISORY BOARD (conducted by Dr ALFRED ADLER). Case 1: A 14-year old girl who thought herself remarkably beautiful set herself to be a great film-star and get her photo in all the papers. At school she made poor progress, was quarrelsome and dominating. She had lost her father at an early age, and was the second of three sisters. Strongly urged to strive for situations of importance—she was the second sister—but sought the path of least resistance, often falsifying reality by phantasy. She felt defeat to be dangerous. Advised: There is to be no brusque discouragement of her choice of profession but she is to be shown the difficulties in the path (to be sure not insuperable), is to be told of the meaning of the work and the study required of an actress and of the lesser rôle played by beauty. The child is to be encouraged in its own studies by hints about the need for a higher standard of education in the acting profession and in case the intention of going into the films persists for three years she is to be strongly advised to go to a good school of acting. Forty-two cases are dealt with thus in twelve columns.

J. R.

REVIEWS

The Primitive Archaic Forms of Inner Experiences and Thought in Schizophrenia, a Genetic and Clinical Study of Schizophrenia. By Dr ALFRED STORCH (Tübingen). Translated by CLARA WILLARD. Washington, D.C.: Nervous and Mental Disease Publishing Co., 1924. Monograph Series, No. 36. Pp. xii + 106. With Bibliography. Price \$2.00.

In his attempt to discover the deeper foundations of the clinical manifestations of schizophrenia the author turns to genetic psychology. There are disadvantages in this proceeding which he has perhaps not perceived and certainly not avoided. He is a clinician and is in constant touch with his patients, that is to say, the material of his study is constantly presenting itself directly to his notice in an ever-changing and yet ever-repeating form; unfortunately he turns from this stimulating source of inspiration and hopes to get clearer insight into the complicated mental structures of this disease by employing the theories of genetic psychologists and religious historians. Genetic psychology (and religious history) is usually studied in the armchair (Lévy-Bruhl) and makes little claim, at least on the continent, to be the result of field work; it draws its conclusions from second-hand material; the author by adopting this method has lost more than he has gained, he gives up first-hand impressions for those at second-hand.

His thesis is that "the complexes which determine pathological experiences are not really unconscious emotionally toned thought formations, but rather, vague, obscure tendencies and feelings of wholly indefinite ideational content" (p. ix). Even in a highly developed normal man, emotions, strivings and thoughts are mingled together in an inseparable conglomerate, much as they are in the primitive, and this makes the "irrational units of emotional experiences and thoughts" only imperfectly accessible to rational analysis; the nearest that can be got to analysis is emotional participation and sympathetic understanding (p. x) though he tries earnestly to give due weight to the results of other methods.

His method is descriptive. He does not strive to discover the connection between the different contents of the mind nor to interest himself in the dynamic construction which can be put upon pathological conditions—both of these methods of work are "one-sided" (pp. ix, 80)—but tries to discover similar modes of thought and emotional attitudes in primitive man and in schizophrenic patients; he hopes to give depth to his understanding of the disease by genetic analysis. As we shall see his method is really upside down, he gives "depth" to genetic psychology by borrowing interpretations from the "one-sided" schools of Freud and Jung. To take a single instance: he says the schizophrenic's inner experiences find more immediate expression in bodily movement than in thought, they use pantomime in place of speech. A patient bit off one of his finger joints, and, when asked why he had done this, replied that he wished to show there was a place wanting; when pressed further he said he had done it to atone for a sin committed many thousands of years before among the Chinese. Dr Storch now turns to genetic psychology, or more precisely to anthropological writings, and shows how certain Australian

racers carry on "a sort of symbolic conjuring" in which they furnish in their own body the realization of a wish, they make rain by taking water into the mouth and then spitting it out again. Having made this "genetic" gesture he returns to his patient and says that his act may have a secondary meaning which is sexual, when referring to his sin long ago among the Chinese he may have meant incest and his expiatory self-mutilation was really a self-castration; he adds, "unfortunately I neglected to ask concerning this."

We must now follow him chapter by chapter: commenting on the schizophrenic characteristic to employ images and symbols profusely (Bleuler) he also notes that primitive man thinks in "total percepts" without analytical discrimination (Thurnwald), three boats belonging to one tribe and two belonging to another make five boats only under certain circumstances; the schizophrenic and primitive disregard logical categories (by which I think he means that they have little capacity to go behind the sense of the moment, and, rejecting irrelevant differences, to combine presentations into orders, whether of quantity or quality). Another character related to this is the indefiniteness of the boundaries of objects within consciousness, objects are shapeless, "resembling emotions" as one patient said, they lack form-qualities (*Gestaltqualitäten*). He gives an instance from normal experience, an object in the periphery of the field of vision is perceived as a shadowy colour complex, which acquires form-quality only when one turns a glance directly towards it, or again when surprised by an unusual situation one experiences an undifferentiated total complex impression which may be subsequently analysed. This kind of mental process he says is characteristic of primitive man, his experiences are of the nature of "psychic amalgams" (Werner), he remains at the level of perceiving objects as wholes and has not advanced to the stage when the mind analyses the whole object into separate elements.

A primitive or schizophrenic can regard a centaur as an absolute unity, the heterogeneity of the fragments being no barrier to the acceptance of the composite picture. As a corollary to this both groups fail to perceive the boundaries of the self. They feel their souls go out of their bodies, pass through walls and enter other people or inanimate things, they become "divided up" into several persons, they feel they are as big as the world or their bodily parts and excretions acquire a sort of independent existence, the hairs they tear out of themselves become serpents, and so on. These great changes are due to "obliteration of the boundaries of the ego" (p. 25). In like fashion the "boundaries" of familiar objects are lost, so that a physician is thought to be the patient's father. One patient (quoted from Nunberg) did not know whether he was the physician or himself. In this way the author carries the analysis of schizophrenic symptoms to disturbances of apperception, so that his exposition becomes rather "one-sided" if we may use his term. He makes some rectification, however, by frequent quotations from Schilder.

He touches on the process which psycho-analysts call identification in the most general terms, and says that there is not only "sympathetic psychic vibration with the dynamics of the object... but a real motor participation" in its gestures and performances. The nearest that highly civilised people can get to this state is in "aesthetic introjection."

Section Two deals with Archaic Primitive Emotional Attitudes and Directions of Mental Experiences. The impulse to perform magic arose from the need for self-preservation. A man when hunting observes that animals approach a creature of the same species as themselves, accordingly he disguises himself

as a buffalo and thus exercises a "magical" attraction, the notion thus acquired is transferred to other situations, he will stand on a turtle shell in order to harden his feet, and so on. He thinks that the "irrational background of emotion" must not be left out of account and explains the power which is felt to proceed from tabooed objects as arising from horror at the unfamiliar—indeed for him magic is so peculiar it cannot be described in words but only comprehended through sympathy. We can perceive how magical experiences reawaken in schizophrenics if we seek out the magical mood in our own emotional lives. Schizophrenic symptoms are due to an effort to preserve the ego against the mysterious powers of the universe, the patients are continually complaining of a loss of strength, this gives rise to anxiety and a feeling of persecution. Their egos are sensitive and have to be protected, so they resort to incantations (verbigeration). Schizophrenic ideas emerge when the emotional currents in the primitive life of the soul are dammed back, the formation of the ideas is not due to direct emergence of the emotional currents but to their secondary elaboration (p. 60). This obscure passage, and many others, seems to be based on something more than genetic psychology, and something less than psycho-analysis; it has the vagueness of the former, and imports into the complexity of the latter an unnecessary amount of confusion by omitting the libido theory and the Oedipus complex. The origin of religion is traced to "numinous primordial feelings" of awe and schizophrenic symptoms may be understood by reference to primitive cults, to a "fluctuating idea of a transcendental somewhat, at first quite vague, of a being . . . (which) receives concrete form as demon or god" (p. 63). He says the supernatural, at first quite formless, is rationalized till it takes the form of definite gods and demons. Even his anthropology is open to question on several important points. He holds that puberty rites are carried out because the primitives believe that nature does not run on of itself but must be made to go along its course by magic; they circumcise to make a man of a boy. This may be criticized as putting too much weight on rationalization—puberty rites it might be said with greater truth are carried out in order magically to stop the course of nature, to undo the boy's incestuous fixation on his mother by a symbolic ritual rebirth and to diminish hatred towards his father by pretending that his father gave him birth; the father joins in the magical deflection of natural processes by substituting for the death or castration of a rival the painful but harmless rite of circumcision.

Space does not allow an examination of every point made in the book but mention must be made of his views on "cosmic identification." He holds that the primitive and schizophrenic do not realize the boundaries of their egos, the division ego—non-ego does not exist. "The psycho-analysts make a too one-sided interpretation when, in accordance with the libido theory, they regard this concentration of all values on the person's own self and the despoiling of the rest of the world of values, as an infantile narcissism" (p. 80 n.), but, he adds, the schizophrenic world-catastrophe is a reflection of an inner cataclysm (though not a libidinal one, we gather).

The disorder is regarded as one in which the perceptual functions of the ego play the dominant rôle, even delusions of persecution being attributed to this, though the author acknowledges that "perverted sexual attitudes," especially the homosexual (p. 105), play a part in causing the patients to seek substitute gratification in phantasy. "The implacable conflict of the soul is resolved into a conflict of good and bad powers—into a struggle between the

ultimate principles of the universe." A clinician may be pardoned for neglecting the ultimate principles of the universe from his aetiological analysis of schizophrenic symptoms if more mundane factors will serve his purpose. The book is rendered less useful than it might be through neglect of the mundane: these patients, for example, frequently complain of hypochondriacal troubles, have hysterical attacks, sometimes have obsessions—the author passes by these "complications." The psycho-analysts regard symptoms similar to those of the transference neurosis as either residues of a former transference neurosis or *attempts at cure*. The neologisms are also not explained adequately on genetic psychological lines, and the relations of this disease to paranoia and its position in the series of neuro-psychoses is left out. It may be said that it is not the author's intention to place this disease in a category, he is free to choose his method. True; but he has lost touch with the correcting influence of clinical experience when he goes hunting for explanations among savages. Is not the loss of boundary between ego and non-ego, to take an instance, perhaps characteristic of one stage of libido *and ego* development, namely the first oral stage (Abraham), and is it not in this stage that the dementia praecox patient has his fixation (Freud)? By gazing into the remote past of human history or into tribal customs the author loses sight of just those clinical complications which call for explanation, and which when explained act as excellent correctives to the tendency we all share to "one-sidedness" in our interpretations of psychical phenomena.

J. R.

The Psychology of the Free Child. By CHRISTABEL M. MEREDITH. London: Constable and Co., 1924. Pp. 212. Price 5s. net.

A question of no little significance for general psychology is left with the reflective reader of this book. How is it possible for a mind so shrewd, clearly observant, and sensible of the developmental value of the native activities of the child, one so much on the side of the child as against the adult's cultural narcissism, to go so far, and yet to go no further? For we are given what is in certain respects, and within its limits, a very valuable account of the 'free' child, together with much excellent practical advice as to the arrangement of his environment. Indeed, if it were possible to get the majority of parents to take seriously and act systematically upon the point of view expressed in the chapters on habit, on desirable conditions, on self-dependence and on play, we should, in one decade, be perceptibly nearer to the world of 'men like gods.' But there is trouble for education and interest for psychology in that 'if.' The sensible practical advice about letting children "mess about in the garden," have their way with water, climb the railings of suburbia and talk freely about their own interests, is too sadly often as seed falling on stony ground or amongst thorns that choke it. And the reasons for this lie in those depths into which the author does not enquire—the facts of infantile sexuality. She shows clearly, for example, the intellectual value of the child's coprophilic interests at one remove from their original form, in play with mud and water; but does not take them at their organic level, and so misses their deeper significance and the way in which they are woven into the pattern of the love and hate relationships. Nor does she look below the surface with regard to these latter, and the general social life of the 'free' child. The general purpose of the book, it is true, is to emphasize the problems of the intellectual development of the

child; but this is not, for the young child, separable from his social development, as the recent psychology of family relationships has made certain. With this recent psychology the author does not seem to be acquainted, if one judges from her account of the instincts in the first chapter. In this theoretical discussion of the instincts and innate tendencies the book is weak and inadequate. Indeed, the central problem of both psychology and education, that of the fate of the instinct-impulses, is dealt with in a few dogmatic words which as they stand are certainly untrue—"...but instincts in man have varied outlets, and their satisfaction can be obtained as well along one line as along another." It would be a simpler world if that were true; and little need either of psycho-pathologists or of educators. Fortunately, the practice of the author is wiser than her theory; and one feels that if now she could go on from the 'free' child to the *whole* child, with the same quiet observation and intuitive understanding, some valuable further chapters of genetic psychology and pedagogy might ensue.

SUSAN ISAACS.

- The Theory and Practice of the Steinach Operation.* With a Report on one hundred cases. By Dr PETER SCHMIDT (Berlin), and an Introduction by J. JOHNSTON ABRAHAM, C.B.E., D.S.O., M.A., M.D. (Dub.), F.R.C.S. (Eng.). London: William Heinemann, 1924. Pp. xiv + 150. Price 7s. 6d.
- Rejuvenation: The Work of Steinach, Voronoff, and others.* By NORMAN HAIRE, Ch.M., M.B. London: Allen and Unwin, 1924. Pp. 223. Price 7s. 6d.
- Rejuvenation by Grafting.* By Dr SERGE VORONOFF, Director of the Department of Experimental Surgery of the Collège de France; Assistant Director of the Biological Laboratory at the École des Hautes Études. London: Allen and Unwin, 1925. Pp. 224. Price 15s.

The news value of this subject has been so well exploited that even the medical psychologist, who ought to know better, has had his professional prejudices aroused and opens these books with a feeling that he will find therein extravagant and unsupported claims. Yet many of the case descriptions are so striking that the sceptic must admit that a new chapter in medicine is opened if the results are confirmed. And confirmed or confuted they should soon be, for they are objective and embrace both clinical and laboratory examples. Contradictory observations, however, puzzle the reader: Steinach, whose rejuvenating operation consists in ligature of the vas deferens, finds that spermatogenic cells in testes successfully transplanted undergo atrophy, whilst Voronoff, who restores vitality by grafting testes into the scrotum of the beneficiary, claims that the grafts even develop from the prepuberal stage to that of spermatogenesis. Both operators give us photographs of aged animal wrecks restored to health, sexual vigour and pugnacity, and both present enthusiastic reports of similar results in human subjects.

Dr Voronoff's demonstration that grafts can survive and retain their specific characters is important, for it is generally believed that invading lymphocytes eliminate the specialized cells. He recognizes the distinction between cases in which a disability is due to defects of the gonads and those where mental processes are primarily responsible, but finds diagnosis difficult and uncertain. It is unfortunate that none of these writers is familiar with psychopathology. Dr Schmidt, indeed, is of the school that believes that the problems of psychology can be solved by speculations expressed in anatomical

terms. A conditioned reflex is "an objective process taking place in the cortex, which can be measured in time and in space," and the psycho-sexual abnormalities "obtain an exact scientific explanation by means of this theory." Dr Haire's book contains cases of his own but is largely a compilation: we find "sexual neurasthenia" given as a sufficient clinical description of a patient upon whom transplantation was performed, and the account of Stanley's work is such poor material as to be valueless. To read that thirty-two people out of forty-one suffering from "poor vision" were benefited by the injection of testicular substance is worse than unconvincing.

After studying these three books one concludes that much of the clinical evidence must be taken seriously, that the co-operation of critical psychopathologists is needed, and that the principles involved must be protected from that hasty application which has marred the kindred subject of endocrinology.

MILLAIS CULPIN.

The Theology of the Real. By R. GORDON MILBURN. Williams and Norgate, Ltd. London, 1925. Pp. xiv, 264. Price 10s. 6d. net.

The title of this book may scare away many who might find much to interest them in its pages. Theology is commonly regarded as a universe of discourse so far removed from that of modern science that votaries of the latter discipline have usually no desire to enter into disputations concerning matters which they regard as being devoid of all objectivity. Mr Milburn endeavours to entice the man of science from his aloofness and sets out to formulate theology upon lines having "the character of scientific rather than of philosophical knowledge to an extent sufficient to affiliate it to the general thought of the present age." "Is there, or is there not," he asks, "a possible sphere of reality in any way corresponding to religious beliefs of any kind? If there even *may be* such a sphere of being there is place for a systematic enquiry, and we cannot know that there cannot be except as a result of such enquiry." He hopes that this book "may fairly be described as a contribution to the study of objectivity in theology."

It would perhaps be out of place here to make any observations on the greater part of the evidence on which the author relies in his endeavour to discover and demonstrate objectivity in theology; but there are some sections of his book in which are discussed problems that are closely connected with medical psychology, and it is fitting enough that some of the opinions expressed on these matters should be referred to in this *Journal*.

In a chapter on "Medical Theology" evidence of scientific objectivity in theology is sought in the records of "Spiritual Healing" of physical maladies, and of 'redemption' from sin and neurosis—the cure of mental and moral bondage. These are "the fields of experience in which the power of God is most confidently asserted to be effectually operative."

In discussing these questions Mr Milburn takes as his starting point the Report of the Archbishop's Committee on Spiritual Healing which he criticises severely on the ground that it almost entirely abandons the basis upon which the religious position rests. It "catalogues medical methods, applies religious terms to them and proposes certain devotional practices as a means of applying those methods," but on the fundamental issue of the reality of 'spiritual

causation' in the healing of disease the report is silent. There is indeed some justification for Mr Milburn's declaration that "when...the Committee complains that some exponents of medical psychology have 'propagated views that are subversive of...religious principles,' I cannot but feel that no such literature is so damaging to religion as this Report itself, which dares neither act upon the supernaturalism which it professes nor profess the naturalism on which it acts." In true spiritual healing Mr Milburn sees the activity of some transcendental agency of a specific kind "which cannot analytically be reduced to some kind of mental or physical healing which has no close connection with the idea of God." He says the evidence in support of the existence of such an agency is abundant, but the only instance he records (one taken from his own experience) is an unfortunate example to bring forward in support of his contention. A little girl was seriously ill with pneumonia and the doctor had left the parents with the impression that the child was dying. "Her temperature was then 104 degrees, and the father told me that the doctor had said that this temperature would last three days, that then the crisis would come, and it was very doubtful whether she had the stamina to pull through." Mr Milburn immediately wrote to a Christian Science practitioner enclosing a photo of the child and asking for two treatments for her. "The child rallied within an hour or two from the time when my letter was received, and within about thirty hours she was well."

This is a fair sample of the kind of evidence on which believers in "miracles of healing" rely. A very little knowledge of the ordinary course of pneumonia in which there is 'recovery by crisis' would have saved Mr Milburn from supposing that his harmless interference had anything to do with the happy termination of a serious illness. One cannot help wondering, when it is a question of proving miraculous healing, why such implicit faith is put in a doctor's diagnosis or prognosis by people who in other matters, or on other occasions, show that they have really rather a poor opinion of the medical profession. Had Mr Milburn known that the accurate foretelling of the time at which crisis will occur in pneumonia depends upon an accurate knowledge of when the disease began, he would have seen that the fulfilment of the doctor's prediction would depend on the accuracy of the information given to him about the beginning of the illness; and he would have suspected that the crisis was due some days earlier than the doctor thought, rather than that the absent treatment by the Christian Scientist had effected a miracle.

Mr Milburn laments over the venality of medical men, for he thinks that their refusal to "diagnose and certify cases not under their control"—which is "the great difficulty with regard to proof of the miraculous character of these cases"—is due to their preoccupation with the commercial aspect of their profession. In the matter of receiving acknowledgement or co-operation from the medical profession he considers the position of the lay-analyst to be the same as that of the Christian Scientist. Yet he ought to know that almost the only people who speak in defence of lay-analysts are those medical men who really know what analysis is and how little does success in this work depend upon medical qualifications.

Mr Milburn tells us that he has himself been through several courses of analysis, and this may perhaps account for his outspoken criticism of the sexual ethics of the Church and of Society at the present time. In the sphere of sexual ethics he enunciates the principle that "when sex is the vehicle of real love and promotes the development of the personality, is allowed by

conscience and involves no hurt to another or violation of contract, it is sacred and sacramental whether it be exercised within the limits of wedlock or outside of them."

In attempting to show the truth and validity of this principle he discusses the problems of abstinence, prostitution, masturbation and phantasy. Abstinence is defined as absence of coitus, masturbation, and of any phantasies which show sexual feeling. "To say 'Be abstinent or marry' may be but offering the choice between two impossibilities," and he thinks that when that is so the Church should be prepared to "throw its influence into the scale of the highest practicable alternative for such people."

The position taken up by the author is that "all those practices which while gratifying man's sensuality afford no basis for love, but rather hinder its coming...are morally bad," whilst "love is the best thing in human life and the way to love is through lust—i.e. sexual feeling for another person, with desire for its natural expression." "If you fear lust too much" he says, "you will lose love and remain the slave of sensuality." He speaks approvingly of the liaison between equals as a temporary or permanent form of sexual relationship and holds that it is not necessarily immoral, but, on the contrary, may be 'definitely uplifting.'

The views expressed by Mr Milburn are probably not very unusual, but they are unusual as coming from a clergyman and in the attempt to reconcile them with the principles of Christian Ethics.

T. W. M.

Manual of Psychiatry: for the Medical Student and General Practitioner. By PAUL E. BOWERS, M.S., M.D., Examiner in Lunacy, State of California. Published by W. B. Saunders Company, Philadelphia and London, 1924. Price, Cloth, 18s. net. Octavo of 365 pp.

It is a pity that a firm of the reputation of Messrs Saunders and Co. should publish such a book as this. It is intended to appeal to the student and general practitioner for whom it should serve as a "reference handbook." Those students who are likely to be examined by the author may find it advisable to read it, if only to learn his peculiar views; for others it is not only unsatisfactory but often actually misleading. Its arrangement is poor, far too much space is given to accounts of alleged typical mental states in physical and toxic conditions, differential diagnostic accounts which should be put in comparative tables to be of any use are strewn over pages making rapid reference impossible, and there is no sense of proportion in the allotment of space to common and rare conditions.

To enter into details of the sins of omission and commission would not be worth while and would occupy space better reserved for worthier books. Of the former the most glaring is the complete omission of any reference to the malaria treatment in General Paralysis of the Insane—not to mention the more recent work done with the Rockefeller Institute's new preparation, tryparsamide. Of the latter, the definitions of neurological and psychological terminology and symptoms are full of gross errors, too numerous to quote. Even the Babinski reflex is incorrectly described as are also echolalia, de-personalisation, the Ganser syndrome, delusions, and obsessions.

The author would appear to have drawn his practical experience chiefly from mental defectives and prison psychotics. The chapter on the relationship of insanity to crime is the best in the book. But even here the author shows his previously declared bias for the physical etiology of mental disease, and while paying lip service to psychological factors in causation fails to deal satisfactorily with them. In the toxic psychoses due to drugs he ignores entirely the view that many of these, including dipsomania, are forms of compulsion neurosis, having a psychological etiology and being amenable to psychotherapy. He states that 25 per cent. of the admissions into institutions are cases due to syphilis. The English figures from 1909-1920 are 9-10 per cent. of males and 1.4-1.7 per cent. females.

For the student the book is misleading; for the general practitioner ill-arranged and cumbersome, while the psychiatrist will find it thoroughly unsatisfactory.

M. R. BARKAS.

The Emotions, Morality and the Brain. By C. V. MONAKOW (Zurich). Washington, D.C. 1925. Nervous and Mental Disease Publishing Co., Monograph Series, No. 39. (Translated by GERTRUDE BARNES and SMITH ELY JELLIFFE.) Pp. iii + 95. Price, \$2.00 net.

The author attempts to make long morphological-biological and historical developments a broad connecting link between morals and the brain. He approaches the former subject by way of philosophy, and the latter from his own renowned researches in cerebral localization. Many books of this character are easy to read but difficult to understand, unfortunately the work before us is both difficult to read and to understand; the former is due to the translation, the latter to the fact that the author employs some of his terms vaguely. Thus he divides the whole material of psychic phenomena (sensation, perception, emotion, in their reciprocal influences and successive blendings), that is, the life interests, into four categories: (a) The true self-preservation of the single individual (true only for infancy). (b) Maintenance of the species (libido, sex). (c) Maintenance of the tribe or the more limited group (love of home). (d) Relations of the individual to all humanity, and to the world in general (infinity, eternity, fate, God, etc.).

As a sub-heading in the second category he mentions "emotions of the immediate present with regard for the past and the future (up to the most intense passion): vows of love, dreams of happiness, longing, impulses to court, desire for domestic happiness and for maternal love, love of children, etc.," and as an example of the fourth category: "inner religious composure," adoration of the Highest, bliss, fervor, rapture, glorification, gratitude towards the Highest, God and Nature worship, inner illumination, religious ecstasy." This he contrasts with "indifference, swearing, emotional conviction of being damned, psychic pain, self-reproach, up to overwhelming contrition, dread, anticipatory fear, foreboding of misfortune," and so forth and so on. The three pages devoted to this tabulation of contrary emotions, instincts and moralities are more confusing than instructive.

The chief difficulty in reading and understanding the book lies in the nature of the translation. This is a good example: "The 'exposed film' that is being

wound from the beginning of the individual life, filled from separate experiences, its vitally numerable, uniform rotary motion—within due range—the continuity, to be sure, not wholly uninterrupted, and often changing with reference to the affectivity, and for that reason assuming different values in conformity with the nature of the subjective, very divers estimations. From this in the course of time the personality or character of the individual becomes crystallised." I will close this unsatisfactory review of an unsatisfactory translation by quoting the last two paragraphs of the translator's preface, merely adding that the bewildered reader is not even provided with a reference to the name, place or date of publication of the original, so that if his curiosity has been roused in spite of the translators, he has to search through catalogues before he can place an order for the German text. When the translation is a good one, the bibliographical reference may conceivably be superfluous. When the translation is a bad one, it may be the only useful item in the book. Be that as it may, the translators say in their own defence:

"That indefinable tendency of the English language to simplify and almost to emasculate the psychical tension of German thought has been here resisted and we leave the matter in its apparently confused form, although we have wished, for many reasons, that we might have presented this fascinating monograph in a simpler and more easily readable form. Inasmuch as this work appeals more specifically to those whose intellectual capacity and fundamental training, neurologically speaking, is of the most highly developed form, we have comforted ourselves that this simplification was perhaps unnecessary."

J. R.

NOTES ON RECENT PERIODICALS

Zeitschrift für Sinnesphysiologie.

Band 56, Heft 2 and 3.

Ueber die Lokalisation der Empfindungen bei den niederen Sinnen. (Emil V. Skramlik.)

In view of the scanty knowledge in regard to localization in taste, smell, temperature and pain the author carried out observations on ten subjects (including himself). The investigation sought to determine:

(a) The accuracy with which the point of stimulus could be recognized (i.e. absolute knowledge).

(b) The measure of accurate differentiation between two points of stimulus.

1. Taste. (a) The distribution of the papillae on the surface of the tongue, fairly regular in children, is extremely variable in adults and most asymmetrical. (b) The physiological reaction varies for stimuli applied to large or to small surfaces.

When different substances are applied in solution simultaneously to the right and left halves of the tongue their locality can be recognized: sensations of taste are localized and exactitude depends upon the individual, the spot and the degree of concentration of the substance. Differences between two stimuli applied simultaneously at different spots are recognized as in the sense of touch.

2. The sense of smell cannot be localised.

3. The sense of temperature is as delicate as that of touch; it is subject to certain individual and topical variations. The sense of pain is topically the least delicate of all dermal sensations. Absolutely and in differentiation the order of the senses as regards localization is sight, touch, temperature, smell, pain.

Beitrag zur Lokalisation von Schmerzempfindungen. (B. Mayer.)

The recognition spatially of painful stimuli is inferior to that of pressure stimuli. For both recognition, absolute and differential, are topically parallel.

Experimentelle Untersuchungen zur Psychologie und Psychotechnik des Visiervorgangs. (Hubert Hildebrandt.)

Experiments to determine phenomena that occur in sighting objects placed at varying distances; the phenomena cannot be entirely attributed to physical causes. The diplopias are astigmatic and in a sense physical but even here certain psychological influences are at work. The nature of the stimulus and the proximity of the stimulus to the retina condition their effects. If two objects are approximated to one another there are changes in the contours tending towards a composite symmetrical figure. The form of an object effects the composite figuration of its astigmatic multiple images. A definite proximity of objects in the field of vision conditions in irregular astigmatic lenses the loosening of the multiple images.

Fragmente über das Sehen im Traum. (Dr Jakob Streiff.)

A description of the visual phenomena occurring in his own dreams to which the writer has paid attention for about a year. He distinguishes hypnagogic hallucinations from true dreams. Generally his dreams occur in a peculiar dream light; sometimes a kind of twilight, sometimes a peculiar artificial light. Nightmares usually occur in gloomy light, recalling the gloomy anxiety of childhood. The peculiar light is perhaps due to the sensations from the closed eyes. Occasionally it is broad daylight in the dream, even when the dreamer woke up in the middle of the night. Persons and things rarely have their natural size in dreams; persons are often bigger; dream scenes often seem to be on a stage and a little remote. This is usually due as Freud says to reminiscences of childish experiences or sometimes to recollections of

appearances of scenes and persons in later years. Dream hallucinations of presentations are generally deficient in the finer details. A study of dream pictures leads up to a comparison between the mental processes involved with those of eidetics. The work of Galton and Jaensch is quoted in support of these resemblances. Freud's perceptual system is criticised since experiences with eidetics and with hypnagogic hallucination show that a part of our perceptions need not originally attain to consciousness; indeed we only become conscious of a part of the perceptual stimuli in each act of perception.

The eidetic *anlage* is most marked before puberty, an interesting fact in view of Freud's discovery of the importance of the infantile life in dreams.

Band 56, Heft 4.

Ueber die absolute Erkennung des Ortes eines Druckreizes bei normaler und anormaler Lage der Haut. (R. Kawakami.)

Experiments with four subjects to determine the absolute local signatures in normal and abnormal positions of the skin (raising the skin). Absolute recognition of pressure stimuli remains unchanged.

Ueber Entfernungstäuschungen im Gebiete des Drucksinnes. (R. Kawakami.)

When two stimuli are applied to the skin drawn in an abnormal position illusions occur as to the distance separating the stimuli. The subjective distance is midway between the objection separation and that in the normally placed skin.

Ueber die Lokalisation zweier gleichzeitig erzeugter Berührungsempfindungen. (Dr Adolf Schwab.)

When simultaneous equal pressures are made at two points, say upon the volar surface of two fingers, the perception of the line connecting the two points gives rise to constant illusions. The errors vary in different individuals and with the point of stimulus.

Ueber Bewegungstäuschungen im Gebiete des Tastsinnes. (Emil V. Skramlik.)

A consideration of tactile false perceptions of movements. A great number of tactile illusions are physiologically analysed.

Ueber Tastwahrnehmungen. (Emil V. Skramlik.)

An investigation of tactile perceptions that occur when objects are brought in contact with the skin under a variety of conditions as to objects, part of skin touched, movements, displacement of the skin, effect of eyesight, etc. Illusions occur not only as to the shape of the objects but also as to our tactile apparatus in movement.

M. D. EDER.

Revista de Psiquiatria.

Vol. v, No. 3. July 1924.

1. *G. Stanley Hall.* (H. F. Delgado.)

An obituary notice of the former President of Clark University, with a bibliography.

2. *Shame as a factor in inducing the adjustment of character to social standards.* (Paul Wilson.)

A note contrasting self-satisfaction and shame.

3. *Un Caso de filiriasis con psicosis maniaco depresiva.* (H. F. Delgado, G. Almenara and E. Citiola.)

A Japanese woman, aged 26, separated from her (Japanese) husband, was found after admission to the asylum to be infected with *Filaria Bancrofti* contracted in Japan, which she had left 2½ years before her mental attack. Though it cannot be

said that the filariasis caused the insanity it was doubtless a contributing factor by its effect on the cerebral circulation and some toxic action producing a wastage of energy. The patient was repatriated when her condition had sufficiently improved.

4. *Peruvian Folk Lore.* (Gerado Quintana.)

Notes on some customs and beliefs of the Indians. Children are suckled till 18 months or 2 years old. If the baby is difficult to wean, the mother's breast is smeared with blood, or with acid juice; horrifying masked figures are made to suck the breast in full view of the baby.

M. D. EDER.

Journal für Psychologie und Neurologie

Band 31, Heft 1 and 2. 1924.

1. *Zur Pathoarchitektonik der Dementia praecox.* (Dr Julius Schuster.)

Schuster reports the clinical symptoms of a case of catatonic schizophrenia and describes in detail changes in the brain as found in serial microscopic sections. He concludes that there are two main pathological factors: (a) an inherent, endogenous alteration in the ectodermal elements; (b) a later secondary degeneration of the pyramidal cells, accompanied by clasmatoendrosis of the glia. The (a) changes are found only in and about the lamina.

2. *Ueber die Neuro-psychische Tätigkeit der Grosshirnrinde.* (J. Beritoff.)

Beritoff gives a physiological explanation of certain psychological processes, such as attention, sleep, dreaming, hypnosis. This praiseworthy attempt is confined, unfortunately, to guesses as to what should take place in the central nervous system. He concludes that although physiology need pay no regard to psychological experiences, psychology, however, must be supported by the facts of physiology.

3. *Beiträge zur Faseranatomie der Stammganglien.* (Dr Walther Riese.)

Riese's new investigation of the histology of the basal ganglia are based upon pathological data, on observations of a foetal brain and that of a new-born child, and partly upon the results of animal experiments.

M. D. EDER.

Journal de Psychologie normale et pathologique.

Vol. XXI, No. 5. October 1924.

1. *La Biologie des Insectes avant, pendant, après J. H. Fabre.* (E. Rabaud.)

A criticism of Fabre's experiments and observations. His vogue is a continual surprise to every field naturalist.

2. *La Vision des Animaux.* (A. Rochon-Duvigneaud.)

The vision of animals must not be judged by human sensations; very little is clear about even the visual acuity of the lower animals, little about the vision of mammals, still less about that of birds and about insects!

3. *L'étude Statistique des Dessins d'enfants.* (G. H. Luquet.)

The statistical studies of children's drawings hitherto made are insufficient both as to number and as to groups of different school ages. The methods employed by authors quoted are subjected to considerable criticism on account of their looseness and absence of systematic observation.

4. *Hallucinations in a case of retinal detachment.* (A. Favory.)

A woman, aged 47, myopic-10D, with double retinal detachment, saw letters and numbers about 1-2 cent. in height; they generally formed parts of French words and occasionally complete words. The letters were sometimes replaced by geometrical figures. No explanation can be offered.

M. D. EDER.

Archivio Generale di Neurologia Psichiatria e Psicoanalisi.

Vol. IV-V. 1924.

1. *La Dégénérescence Colloïdo-calcaire du Cerveau.* (C. I. Urechia and S. Mihalescu.)2. *Gli Istinti nel Sistema dei Psichismi umani.* (M. Levi Bianchini.)

The specific qualities of a primary instinct are carefully laid down; three primary instincts are recognized concerned with nutrition, autonomy, reproduction or hunger, liberty, love. The two first are ego instincts, the last a libido instinct.

3. *Quelques Considérations sur un cas d'encephalite lethargique.* (Prof. C. L. Urechia and Dr N. Elekes.)4. *Su alcune critiche di autore italiani in tema di psicoanalisi.* (Dr E. Weiss.)

An examination of the present position of psycho-analysis in Italy. Although there is a good deal of opposition it is interesting to know that the veteran Augusto Murri has welcomed psycho-analysis; Levi-Bianchini, the first Italian translator of Freud, is a tower of strength.

5. *Una varietà rara di Distrofia lipomatosa.* (Dr G. Fumarola.)

A woman, aged about 75, acquired during about 3 months a large accumulation of fat in the mammae, nates and the anterior portion of the abdomen. There is no pain but a hypoaesthesia of the skin in the affected area.

M. D. EDER.

Journal de Psychologie.

Vol. XXII, No. 1. 15th January, 1925.

La vision binoculaire, facteur d'évolution. (M. Landolt.)

An examination of the vision of the vertebrata leads to the conclusion that in the evolution of man binocular vision was a stage antecedent to the upright posture and the invention of the hand.

La philosophie naturelle de La Mettrie. (R. Lenoir.)

La Mettrie's originality has not had justice done to it. His doctrine that the soul of man could be understood in physical terms originated in observing in himself that during great mental activity his pulse rate was increased. This observation turned him from his ecclesiastical training to medicine and to science. He expounded his view in the *Histoire Naturelle de l'ame*. In his works *L'Homme Machine*, *L'Homme Plante*, *Les Animaux plus que Machine*, the development of organic life from the inorganic world is suggested and the relationship between man, his fellow-animals and the botanist's world are marked out on the basis of observation and analogy. La Mettrie has his limitations; the origin of the arts and of science does not engage his attention; he does not ask how we obtain our knowledge of the external world—he is no psychologist. It must be remembered that he lived in the midst of furious controversy, that he was compelled to fly from Paris to Leyden and from Leyden to Berlin, where under Frederick the Great he found a refuge. His irony made him numerous enemies. La Mettrie's philosophy was inspired by a desire to find the right way for man to live.

Une Délirante mystique et érotique du XVIII^e siècle. (L. Herr.)

In a private library the writer accidentally came across a large work dated 1730; the second volume from p. 472 to p. 660 was annotated in a feminine handwriting. These annotations, printed in full, indicate that the writer was a Frenchwoman, born in the provinces, married in Paris, where she led for some time a very immoral life which became a public scandal. Her parents removed her to their home out of France; she was regarded as mad and prohibited from contact with anyone. The allusions in the annotations show that they were written not later than 1740. Though perhaps not well read the writer has a vigorous and lively style, and amid all the extravagances due to extreme mental confusion there are passages which are eloquent and betray

an unusual loftiness of spirit. Herr is surprised at the not infrequent appearance of obscenities which he considers due to the reading of indecent literature, the conversation of servants, and a licentious life. But he leaves the interpretation of the last to the psychologists interested in erotic mysteries. (They might, for instance, give another interpretation.)

Though she finally takes God as her lover, her spouse after her fall (when she had become a putain—a whore) there are suggestions of erotic mysticism before marriage, that it was the Lord himself who chose her husband for her. Her writings end in an outburst of jealousy of Mary Magdalene whom she is to succeed as Christ's favourite spouse. She will have merited this by her sufferings, by her terrible and cruel death.

Vol. xxii, No. 2. 15th February, 1925.

Un chapitre d'histoire de la physiologie: La conception de la durée dans l'excitation au XIX^e siècle. (L. Lapique.)

Du Bois Reymond's general law of muscle irritability is discussed and contrasted with the very different conclusions arrived at experimentally by Pflüger (1859), Fick (1863), Brücke (1867), Engelmann, König (1870). These results were entirely overlooked and had to be rediscovered thirty or forty years later by other workers in this field.

Lapique ascribes this neglect to the influence of Hermann's *Handbuch*, which, published in 1879, adopted Du Bois Reymond's law. For years the teaching of physiology practically equalled what the *Handbuch* taught.

The psychological fact drawn is that truth by itself no more suffices in science than it does elsewhere. For an abstract conception to become successful publicity is needed just as much as in politics or business.

Recherches sur les rapports des mouvements d'expression et du langage. (R. Le Savoureux.)

Language as a means of expression is accompanied by two sets of muscular movements; one set for articulation, another set for meaning. In the second set words expressing conative, representative, affective tendencies have their respectively different movements. The variations between these and the first set (articulation of words without attending to their sense) is mathematically worked out on six subjects. The experiments suggest an extension to the mental conditions associated with words.

Le souvenir latent des noms propres. (P. Guillaume.)

The attempt to recall the names of forgotten places does not give rise to phenomena of affect; even the first abortive attempts are phenomena of imagery. The author describes his own experiences in attempting to recall several more or less completely forgotten names of villages and explains in many cases how the errors arise—often from blending of contiguous villages, or the substituted word is some more familiar word.

Les états affectifs dans les hallucinations lilliputiennes. (R. Leroy.)

The behaviour of hallucinatory lilliputian figures always corresponds to the affective state of the subject. Thus a general paralytic saw soldiers 10 to 15 centimètres in height running along the mantelpiece, hiding behind the portrait frames, little dolls dancing, little bicyclists riding round the room. The patient was radiant with joy and amusement.

In another case a man who was in great physical pain was beset by hallucinations of little people attacking him, climbing on the painful spots; he begged for his gun to shoot the 'little villains.'

Vol. xxii. 15 April, 1925.

Les origines de l'art. (H. Breuil.)

There is no evidence of pictorial art prior to Aurignacian man. There are traces of decoration in the Mousterian age. In addition to the usual causes for the development of art Breuil considers that a fertile source is the reproduction of the foot tracks made by men and animals.

(I) *L'influence psychologique et les associations du présentisme.*

(II) *Quelques groupes de présentistes.* (Fr. Paulhan.)

The non-reflective may be grouped into three classes: (1) the impulsive, (2) the suggestible, (3) the frivolous. (1) Live but with a wide range in the present moment. Claude Bernard can be regarded as a type of the well-balanced impulsive; (2) are characterized by being always of the last speaker's opinion; they adapt themselves easily enough to their surroundings but have little personality of their own. (3) are unstable both in idea and in action; the frivolous child passes rapidly from toy to toy, the woman from lover to lover, the man will neglect an important engagement for some attraction of the moment.

The writer concludes this article which fills 30 pages by stating that the types sketched in the essay only present a section of personality, not the whole of the individual. In actual life there is never a true type but infinite gradations and contradictions.

Psychologie pathologique et sociologie. (Cl. Blondel.)

The mental life of primitives as described by Lévy-Bruhl has resemblances with that of psychotics. Both are different in kind from that of civilized normal man and both have this in common: whereas the thinking of civilized man is characterized by its objectivity, that of primitives and of psychotics alike is characterized by its subjectivity. From this point of view sociology has certain values for psychopathology. Emphasis is laid upon the consideration that psychopathology can only describe mental mechanisms, discover the laws, but physiology alone can arrive at the causes of disturbed mental conditions. Incidentally Freud's views come in for criticism especially for his attempt to classify the various neuroses and psychoses almost exclusively from a psychological aetiology thus abandoning the more valuable clinical distinctions. But Freud's real merit is his dominant idea that psychology has to be entirely remade. Lévy-Bruhl's demonstration of the two modes of thought, the civilized and the savage—is a new point of departure for psychology and patho-psychology.

M. D. EDER.

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